

THE CULTIVATOR:

A MONTHLY PUBLICATION, DEVOTED TO AGRICULTURE.

VOL. IV.

ALBANY, JULY, 1837.

No. 5.

PUBLISHED BY THE N. Y. STATE AGRICULTURAL SOCIETY.

J. BUEL, Conductor.

Office No. 3 Washington-street, opposite Congress Hall.

TERMS.—FIFTY CENTS PER ANNUM, TO BE PAID IN ADVANCE.

Special Agents.—JUDAH DOBSON, Philadelphia—Messrs. HOVEY, Boston—ISRAEL POST & Co. Booksellers, 88 Bowery; ALEX. SMITH, Seedsman, Broadway, and G. R. GARRETSON, Seedsman, 111 Fulton-street, New-York.—ALEXANDER WALSH, Lansingburgh, gratuitous agent. Any gentleman who will enclose us \$5, free of postage, will be considered also a special agent, and will be entitled to every eleventh copy, or its equivalent, as commission.

The Cultivator, according to the decision of the Post-master General, is subject only to newspaper postage, viz: one cent on each number within the state, and within one hundred miles from Albany, out of the state—and one and a half cents on each number, to any other part of the Union.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

We promised to increase the quantity of matter in the Cultivator. This has been done by using a smaller type. Each number of this publication now contains as much matter as ninety-five pages of Chaptal's Chemistry applied to Agriculture, and about as much letter press as four weekly, or one monthly number, of the Penny Magazine, reputed to be the cheapest publication in the world. The Penny Magazine sells at one dollar and fifty cents per annum, the Cultivator, containing about the same quantity of letter press, sells at—fifty cents!

AGRICULTURAL IMPLEMENTS.

In pursuance of the recommendation of the State Agricultural Society, the subscribers, a committee appointed for the purpose, will meet at the City Hotel, in Albany, on the second Tuesday in July inst. at 10 o'clock A. M. to examine and test any agricultural implements which may be offered for their inspection; and to certify to the merits of such as they may find deserving of public patronage. Inventors and venders of new implements and machinery are invited to attend, and previously to notify the secretary, J. K. Paige, Esq. of the implements they intend to exhibit, by letter, post-paid. July 1, 1837.

A. VAN BERGEN,
H. BURDEN,

JOEL A. NOTT,
JESSE BUEL,
J. P. BEEKMAN.

Publishers of newspapers will render a public benefit by giving a gratuitous insertion to the above notice.

WHAT IS A USEFUL EDUCATION?

We put the question in reference to the great body of American youth, who are to earn their bread by the sweat of their brows, and, under Providence, to wield the future destinies of our country. Two principles should govern: *Teach them to provide for themselves honorably*, under any ordinary contingency,—and *qualify them to become useful to society*. The times, as well as universal experience, abundantly admonish us, that however the children of wealth may indulge in indolence and dissipation—while their means last,—the great mass of American youth must, and ought, to depend upon their labor for their fortunes and their usefulness. Fortune is at best precarious; patrimonial dependance is uncertain, and reliance upon the friendship or charity of the world, or upon office, is frail and often debasing. Self-dependance is the only sure stay. *We are ever most willing to help those who help themselves*. Productive labor is the legitimate source of all our wealth, individual and national; and this labor is profitable to the individual and to the nation, *in proportion to the measure of intelligence and scientific knowledge which guide and direct its operations*. Hence it is of primary importance, that our youth should be efficiently taught to labor, and that their minds should be early imbued with that kind of knowledge which will instruct them in the principles of their business, render it honorable, and make them independent in conduct and in fortune.

We have, to be sure, colleges and academies in abundance, more than can be well supported, or that can be made economical and useful. But these are in a measure consecrated to the learned professions—to the privileged few—for they are privileged, inasmuch as they are the exclusive recipients of public bounty in the higher branches of learning. Productive labor derives little or no advantage from their teachings. Few of the youth who enter their halls ever seek for a livelihood in the laboring arts. They learn to look upon labor, as servile and demeaning, and to

seek their level in what they consider the *higher classes* of society. They do not go to these schools to *learn to work*, or to *learn to live by work*,—in the common meaning of these terms—but to *learn to live without work—above work*. They are virtually withdrawn from the producing classes. These young aspirants flock to the learned professions, and the genteel employments, as the avenues to honors and to office; and notwithstanding that labor is taxed heavily, in one way or another, to supply their real or imaginary wants, yet the *genteel* professions have become so overstocked, and the threshold of power so thronged with supplicants, that hundreds and thousands are thrown back, as parasites, upon society, exhibiting the melancholy spectacle of men, born to be useful, but unable, or unwilling, from the bias of a wrong education, to become so. Had these men been taught to look upon labor, as it truly is, a necessary, healthful, independent, and honorable employment, *and been instructed in its principles and its practice*, while young, they would have cherished its interests, respected its virtues, and cheerfully shared in its toils and its pleasures. We seek not, by these remarks, to pull down that which is, but to build up that which is not. It is not that we love a part less, but the whole more. We would raise the standard of labor, without depressing that of literature.

We have common schools too, munificently endowed, where all may acquire the *rudiments* of knowledge, but the rudiments only. They teach nothing of the sciences which are necessary to the successful prosecution of the arts—and give no instructions in the best models of practice. They neither learn the boy how to provide for himself, nor fit him for extensive usefulness. They lay the foundation, but they do little to build up and beautify the temple.

We find in the London and Westminster Quarterly, in an article on the means of lessening the evils of pauperism, some very apposite remarks upon this subject, which we here transcribe:

"We advocate," says the Review, "both for England and Ireland, the necessity of a national provision for the moral and industrial training of the young. In the old we cannot hope for much improvement. But the new generation springing up might be modelled to our will. Schools are wanted; but not such as are now spreading over the country, to teach a little reading and writing, as if that embraced the whole business of life, and the whole duty of man—schools in which both boys and girls should learn to employ both their heads and their hands—in which they should be taught practically the use of various tools, and in which such general information should be imparted, relating to different branches of industry, [the rights and duties of citizens,] and the resources of other countries and their own, as would enable them to begin to mount the uphill path they would have to climb in after life, with a heart full of hope, and with a spirit of energy and intelligence which no difficulties would overcome."

Who will tell us why it is, that classic schools, available only to those who design to live without labor, are made the special and exclusive objects of legislative bounty, in regard to the higher branches of instruction? Why is it, that six or seven thousand youths, which is about the number in our colleges and academies, should receive gratuities from the public treasury, till the aggregate exceeds three millions of dollars, to enable them to live without work, while half a million of other youth, with like capacities and like claims, destined to labor, and to augment the resources, the wealth and the happiness of their country, are denied a miserable pittance, in the higher branches of knowledge, to qualify them for their more important duties in society? Is not knowledge as beneficial to the arts of labor, as it is to the learned professions? Is it not as efficiently and beneficially applied in developing the riches of the earth, in perfecting the mechanic and manufacturing arts, and in augmenting the products and profits of labor generally, as it is in the warfare of party politics, in the chicanery of the law, and in prolonging unprofitable debate in our legislative halls? May not natural science be as profitably studied and applied on the farm, where nature is constantly presenting new subjects of illustration and appliance, as in the town or in the closet? Is not chemistry, which instructs us in the nature and properties of all bodies, as useful to the farmer, in ascertaining the qualities of his soils, and their adaptation to particular crops, and in regulating the multifarious operations of husbandry,—and to the artisan, in managing his various processes,—as it is to the lawyer, the statesman, or the divine? There is probably no employment in life that embraces so wide a scope of useful study, as that of cultivating the soil. The great use and end of science is to improve art, to impress us with a sense of our obligations to God, and of our duty to man. In truth, science belongs to, and constitutes an integral portion of the arts, and cannot be divorced from them without throwing us back into a state of semi-barbarism, such as now debases a great portion of the population of the old continent. Why then teach science exclusively to the few, who have com-

paratively so little use for it, and withhold it from the many, to whom it would be a help and a guide?

We look to Europe for precedents, and blindly adopt some that are prejudicial, as well as many that are good. We forget that we are a new people in government, manners and laws, and that there is no country which will serve as our model in all cases. The education bestowed upon the working classes in Europe is designed to qualify them for the subordinate stations in society—for labor and obedience, as *subjects*. These governments recognize a privileged class—who are the owners of the soil, and live upon the labors of the many. The working classes have very little to do with the affairs of government. Here all are professedly upon a footing of equality. All enjoy political rights, and have political duties to perform—and all should be equally favored, so far as the public bounty is dispensed in the means of obtaining useful knowledge, and of acquiring wealth and honors. We should take care to have good farmers and good mechanics, as well as good lawyers and good doctors. We want not only good *subjects*, but intelligent *freemen*—high-minded, independent freemen, “who know their rights, and knowing, dare maintain them.” We wish to keep the fountains pure, that the stream of power may not become defiled. We wish to base our political and social fabric upon a rock, steadfast and sure—upon the intelligence, industry and moral rectitude of the great working community. When this class shall cease to exert a healthful and a controlling influence in political affairs, our boasted freedom will be at an end. A privileged class, whom the bounty of government has assisted to arm with exclusive power, will control and direct the political machine, as may best subserve their aggrandizing views, without regard to the common weal. Ambition is the same in all ages and countries. Man loves power, and is corrupted by it; and in its prolonged exercise, the servant will ever swell into the master. Our freedom can only be securely guarded by the vigilance of an enlightened, independent, prosperous yeomanry.

Men have tried all sorts of expedients, for thousands of years, to obtain wealth and happiness; and after all, it has become pretty evident, that there is no course that wears so well—that is so self-approving—that is so certain in its success; that gives so much health, contentment and independence—the substantial elements of happiness—as habitual industry, tempered and directed by a cultivated mind,—be it in the learned or laboring professions. The consciousness, that we are not only providing for ourselves, and those naturally dependent upon us, but that we are doing good to society, and thereby fulfilling one of our highest moral obligations, is a rich source of enjoyment, to which the indolent and dissipated must ever remain utter strangers.

We say, therefore, that we want schools of moral, industrial and scientific instruction for the working classes of society—that these classes are entitled to them—and that their establishment would conduce alike to the prosperity of our country, and to the perpetuity of our political and religious freedom.

NUTRITIVE PRINCIPLE OF ANIMAL FOOD CONTAINED IN GRAIN AND ROOTS.

This subject has engaged the attention of chemists for some time. M. Raspail has at length announced, as the result of numerous microscopic examinations and experiments, that the nutrient matter of grain and roots is enveloped in shining, white, smooth globules, quite insoluble in cold water, even when immersed for a length of time;—that these globules consist of an envelope, or shell, and a kernel; that the envelope is even insoluble in boiling water; that the kernel contained in the globular envelope, consists of a gum-like matter;—that when immersed in water at 122°, the kernel expands, and the envelope bursts at boiling heat, but is never decomposed; that in much water the envelopes are detached, and subside—but when the quantity is small, they become mutually entangled, and form jelly, or the starch of the laundry. The kernel of these globules is termed *dextrine*. The globules differ in size in different grains and roots. In wheat they are 2-1000 parts of an inch. In the potato they are double this size; while in buckwheat they are only 1-10,000 part of an inch in size.

During the investigations of M. Raspail, the following facts seem to have been established:

“1st. That the globules constituting meal, flour, and starch, whether contained in grain or roots, are incapable of affording any nourishment as animal food till they are broken.

“2d. That no mechanical method of breaking or grinding is more than partially efficient.

“3d. That the most efficient methods of breaking the globules are by heat, by fermentation, or by the chemical agency of acids or alkalies.

“4th. That the dextrine, which is the kernel, as it were, of each globule, is alone soluble, and therefore alone nutritive.

“5th. That the shells of the globules, when reduced to fragments by mechanism or heat, are insoluble, and therefore not nutritive.

“6th. That, though the fragments of these shells are not nutritive, they are indispensable to digestion, either from their distending the stomach and bowels, or from some other cause not understood, it having been

proved by experiment that concentrated nourishment, such as cane-sugar, essence of beef, or osmazome, cannot long sustain life without some mixture of coarser and less nutritive food.

“7th. That the economical preparation of all food containing globules of fecula, consists in perfectly breaking the shells, and rendering the dextrine contained in them soluble and digestible, while the fragments of the shells are at the same time rendered more bulky, so as the more readily to fill the stomach.”

These facts sufficiently explain, what before was but imperfectly understood, why grain, meal and roots develop additional nutritive properties by being cooked, or undergoing the process of fermentation; and should encourage us to persist in the practice of boiling or fermenting our hog feed, if not the food of our horses and neat cattle. The globules, it is true, may be partially broken, and the dextrine developed, by the heat and fermentation of the stomach, particularly in animals possessed of powerful digestive organs; yet when they are in a manner gorged with food, to hasten the fattening process, there is good reason to believe, that without the aid of previous heat or fermentation, much of the nutrient properties of grain and roots is wasted. This discovery goes, also, to demonstrate the utility of the practice, common in many states of the European continent, of feeding their horses with bread, instead of meal or grain—the globules being completely ruptured in the process of baking.

FAT ANIMALS AND LARGE CROPS.

RESULT ALIKE FROM AN ABUNDANCE OF PROPER FOOD.

The profits of crops, as well as of cattle, depend mainly upon the return they make for the food and labor bestowed upon them. The man who grows a hundred bushels of corn, or makes a hundred pounds of meat, with the same means and labor that his neighbor expends to obtain fifty bushels, or fifty pounds, has a manifest advantage; and while the latter merely lives, the former, if prudent, must grow rich. He gains the entire value of the extra fifty bushels, or fifty pounds. This disparity in the profits of agricultural labor and expenditure is not a visionary speculation—it is matter of fact, which is seen verified in almost every town. We see one farmer raise 80 bushels of corn on an acre of land, with the same labor, but with more foresight in keeping his land in good tilth, and feeding better his crop, that his neighbor employs upon an acre, and who does not get 40 or even 30 bushels. This difference results from the manner of feeding and tending the crop.

If the farmer, for the convenience of transportation to market, wishes to convert his grain, and his forage, and his roots, and his apples, into beef and pork, what is his judicious course of proceeding? Does he dole these out to his cattle and his hogs in stinted parcels, just sufficient to sustain life, or to keep them in ordinary plight? No. He knows that a given quantity of food is necessary to keep them as they are, and that the more, beyond this given quantity, which they can transform into meat, and the sooner they do it, the greater the profit. To illustrate our remark: suppose a hog requires twenty bushels of grain to keep him in plight for two years, and that he can manufacture fifteen bushels of this grain into pork in six months, if duly prepared and fed to him. In the one case, the owner has his lean hog at the end of two years, for his twenty bushels of grain; in the other, he has converted fifteen bushels of this grain into pork—into money—at the end of six months, saved the keep of the hog for eighteen months, and twice or thrice turned his capital to profit. Time is money, in these as in all other things appertaining to the farm. The proposition may be thus stated—that which will barely *keep* a hog two years, will *fatten* him well in six months. Therefore, the sooner we can convert our grain and forage into meat, with due regard to the health of the animal, and the true economy of food, the greater will be the profits which accrue. The remark applies to milk as well as meat. These facts teach us, to *keep no more stock than we can keep well*; and that, *one animal, kept well, is of more profit than two animals that are but half fed*.

If we apply these rules to our crops, they instruct us to *till no more land than we can till well*, and to *plant and sow no more than we can feed well*; for the fact must not be lost sight of, that our crops, like our cattle, live and fatten upon vegetable matters. One hundred bushels of corn, or four hundred bushels of potatoes, may be grown upon four acres of land badly fed and badly tended; and this is probably about a fair average of these crops; while the same amount of corn or potatoes may be grown on *one* acre, if the crop is well fed and tended. The product being the same from the one acre as from the four acres, and the expense but a trifle, if any, more than one-quarter as much, it results, that if the crop on the four acres pays for labor and charges, three-fourths of the crop on the one acre is net gain to the cultivator. Estimating the charges at \$25 the acre, the price of corn at \$1, and the potatoes at 25 cts. the well cultivated acre affords a profit, over and above the charges, of \$75—while the crop on the four acres gives not a cent of profit, but merely pays the charges upon it. Though not in this degree, the same disparity exists in all the operations of husbandry; and the primary cause of the difference consists in feeding well, or feeding ill, the crops, as well as the cattle, which are the source of the farmer's profit.

Let us continue the analogy a little farther. Every one knows, that to

have good cattle, it is necessary not only to have an abundance of food, but that much, in the economy of the fattening process, depends upon having it of suitable quality, and properly fed out. The grasses should be sweet and nutritious, the hay well cured, and the grain and roots broken or cooked. The man who should leave his cattle food exposed to waste, till it had lost half of its value, would hardly merit the name of farmer. Every one would say, *that man is going down hill*. Cattle, say they, must eat, and if we don't feed them, they will give us neither meat, milk, nor wool. And so must plants eat—they have mouths, and elaborating processes, and transform dung into grain, roots and herbage, with as much certainty and profit, as cattle convert grain, roots and herbage into meat, milk, &c.—Hence the farmer who disregards dung, or suffers it to waste in his yards, is as reckless of his true interest as he would be to neglect or waste his grain, hay and roots. Dung is the basis of all good husbandry. **DUNG FEEDS THE CROPS; CROPS FEED THE CATTLE; CATTLE MAKE DUNG.** This is truly the farmer's endless chain. Not a link of it should be broken, or be suffered to corrode, by indolence or want of use. Once broken, and the power it imparts is lost. Preserved, and kept bright by use, it becomes changed into gold. It is to the farmer the true philosopher's stone. The man who wastes the means of perpetuating fertility in his soil, may be likened to the unfortunate sons of opulence, who waste, in habits of indolence and dissipation, the hard-earned patrimony of their fathers.

THE HARVEST PROSPECT.

Has brightened surprisingly within the last six weeks. In the valley of the Mohawk, through which we have recently passed, we never saw the crops look more propitious to the hopes of the farmer, than they now do, considering the backwardness of the season. The wheat, there, stands pretty well, and were it not for apprehensions from the grain worm, the prospect would be that of a good crop. Many of our readers abroad identify this insect with the hessian fly, and others with the weevil. It is neither. The hessian fly preys upon the stock of the wheat; the weevil upon the ripened grain, in the barn or in the bin; the grain worm destroys the wheat in the germ or milk. The spring grain and grass look very well, where any attention has been given to draining; and even Indian corn, though got in late, has come up well, and is of a good color. There has been an abundance—an excess of rain; and although "spring lingered long in the lap of winter," yet the warm weather in the last of May and first of June has caused such a luxuriant growth, that if the coming month is favorable, and the nipping frosts of autumn are delayed, the corn crop will yet be a tolerable good one. The prospect of the crops farther west, we are happy to learn, is equally flattering. Abundant crops will do more to mitigate present evils, than a hundred banks. The truth is, that as a national family, we bought sixty-four millions of dollars more last year than we sold—and the sixty-four millions balance must be paid before we can have easy times—*must be paid from the profits of agriculture*. Banks enrich individuals—good crops the country—the whole country. Then let us "speed the plough," and honor and instruct those who guide it.

ROOT CULTURE.

The root, and particularly the turnip culture, which has been extolled as the basis of improved husbandry in Great Britain, is rapidly extending among us; and we confidently anticipate from it the best practical results. Five years ago there was not probably two hundred pounds of ruta бага seed sown in the state; this year tons of this seed have been sown; and the culture of mangold wurtzel and carrots, has been also greatly extended. One seedsman has imported 26 cwt. of ruta бага seed, and this probably has not been more than a quarter, or a third, that has been sown. The supply has become exhausted, from Baltimore to Boston, and yet the demand has not been supplied. Our neighbor, Thorburn, has sold this season 1,500 lbs. ruta бага seed; 150 lbs. carrot do.; 100 lbs. parsnip do.; and 150 lbs. mangold wurtzel do.; and, as indicating the extended culture of roots, and the advance of agricultural improvement, we add, that he has also retailed seventy cultivators; eighty drill-barrows; and seventy-five of Green's straw-cutters. We record these facts as affording, in our mind, substantial proofs of a propitious change, and of the efforts to improve, which are now being manifested in our agricultural community. And from the spirit of inquiry which is abroad, and the general circulation of agricultural periodicals, we hazard little in saying, that the rising generation will be better farmers, and more enlightened men, than their fathers have been. Let every young farmer ponder upon these facts, and to stimulate him to honorable exertion, let him remember, that he who aims to excel, will at least attain mediocrity; while he who aims at mediocrity will generally fall short of it. Cultivate the mind, as the sure means of increasing the profits of the hands.

DISEASES OF NEAT CATTLE.

Diseases in cattle, like those in man, are more easily prevented than cured. The best preventives are a plenty of wholesome food, dry pastures in summer, dry and clean sheds or stables, or well littered yards, in winter, and an ounce of salt per diem to cattle and horses, and a quarter of

an ounce to sheep. Salt augments the nourishment of the food eaten, improves the wool, and prevents disease.

But disease will come. Many cattle die annually among us; and such is our ignorance of the causes and nature of their diseases, that in our attempts to cure, we often kill. Instruction in the anatomy and diseases of horses and cattle, constitutes a distinct branch of education in Europe; and the veterinary surgeon holds there an important rank in the scale of science and of usefulness. Here the business has few practitioners above the grade of quack cattle doctors. We profess but little practical knowledge in the matter; but as we have been often applied to for advice, we have turned to our best authorities, and shall now give the symptoms, and mode of treatment, of some of the prominent disorders to which neat cattle are incident.

Remark on the analogy between men and brute animals, Lawrence observes, that regular medical men can be alone qualified for the cure of diseases in our domestic animals; and he declares that *all "infallible receipts are infallible nonsense."* The "receipt of prevention," he adds, "is worth more than all the infallible cordials and medicines ever advertised. It should be considered, that animals living in a state of nature, regulated by the reason and experience of man, would be almost exempt from disease. That their appetites, unlike our own, may be held under a constant control. That their diseases result purely, even in the case of hereditary defects, from the negligence or erroneous treatment of their owners. They are either exposed too much to the rigors or changes of weather, or they are gorged with food, denied a sufficient quantity, or supplied with such as is unwholesome. Here we have the chief causes of their maladies. *Learn to prevent them*, instead of undertaking the tedious, unsuitable and hopeless task of learning to cure them."

Omitting the notice of ordinary fevers and colds, produced by over exertion, sudden changes of weather, and exposure to cold winds—for which bleeding, warm stimulating drinks, and stabling are prescribed, we pass to

PERIPNEUMONY—PLEURISY—INFLAMMATION OF THE LUNGS.—*Symptoms.*—Dry, painful cough, hot breath, laborious perspiration, sometimes a rosy discharge from the mouth, the hide feels hard, constricting and burning hot. This is another variety of disease from suppressed perspiration, generally occurring in the autumn or early spring, in hilly or exposed situations, on a sudden change from heat to cold, or during a long continuance of northeast winds. The *cure* consists in bleeding and cooling medicines, administered in the house [stable] where the animal may be kept from the weather, the original cause of the disease.—*See Lawrence on Cattle.*

THE YELLOWS.—This disease in cattle usually originates in hepatic, or liver obstruction, from cold; however, always from obstruction, which is most effectually opened by mild mercurial purges, notwithstanding the beast may appear weak and hide bound. *Symptoms.*—A general tremor over the animal in the morning, particularly in the hinder legs, loins and thighs; the eye-lids appear hollow; the whole body assumes a yellow cast; the nose is dry, and the ears often hang down; the dewlap, shoulders and loins swell; the udder of cows becomes tumefied, and produce little milk, which, in a few days, acquires a peculiar yellow tinge, coagulating when boiled; and lastly, the fore teeth become loose. The disease, if not speedily attended to, will in a few days settle in the interior parts, and induce murrain, dropsy, or other fatal disorder.—[*Willich.*] Take the patient to the barn, the earlier the better, and if he remain weak after two or three purges, give steel beer, milk warm, a pint twice a day, and good keep. One gallon of good beer, three or four ounces of iron filings, infuse in a stone bottle corked up three or four days, shake daily.—[*Lawrence.*] Purge two or three times with calomel and jalap, 40 grains of each.—[*Cooper.*]

MURRAIN.—This term corresponds with that of the plague, in the human species, and the diseases have a similar origin, namely, in putrid *mi-asmata*, or vapors inspired or drawn into the noses or mouths of animals, which animals being infected, acquire the power of infecting others by their breath or perspiration. The regular exit of the disease is in the eruption of suppurating biles or buboes, and the care of the physician is to prevent a fatal result the while from mortification. *Symptoms.*—Decrease of appetite; poking out of the neck from difficulty of deglutition or swallowing, shaking the head, hanging down of the ears and deafness; dullness of the eyes, moving about restless. About the fourth day, stupidity, unwillingness to move, great debility, total loss of appetite, running at eyes and nose, sickness, throwing up bile, husky cough, and shivering. Head, horns, breath very hot, body and limbs cold. Fever continual first three days, now rises; pulse quick, contracted, uneven. Constant *diarrhea*, or scouring of foetid green dung, stinking breath, nauseous steam from the skin, infecting the surrounding air. Blood florid, hot, frothy. Urine high colored. Roofs of the mouth and barbs ulcerated. Tumors or balls are felt under the fleshy membrane of the skin; eruptions all along the limbs, and about the bags of the cows. Milk dries up suddenly. Purging more violent. These symptoms continue increasing until the seventh day, on which, generally, although sometimes protracted till the ninth, the crisis, or turn, takes place.—[*Lawrence.*] The murrain is occasioned by various causes, but principally by a hot dry season, or a general corruption of

the air. The remedy employed during a general prevalence of this distemper in Europe, both for its prevention and cure, consisted in a mixture of equal parts of gunpowder, salt, soot, and brimstone; one spoonful of this composition was given for a dose, and washed down with warm water. The most effectual preventive of this destructive contagion is, to keep the cattle cool during the summer, and to allow them a sufficiency of water. All carrion should be speedily buried; and as the feeding of those useful animals in wet places, or on rotten grass or hay, frequently causes this malady, their food ought to consist of dry and sweet fodder.—[*Willich.*] A correspondent in the Farmers' Cabinet says, "there are two processes recommended for the cure of the murrain in cattle; one of them is to give the animal one pint of spirits of turpentine, and in twenty-four hours afterwards a pint of olive oil or hog's lard; in forty-eight hours afterwards half a pint of spirits of turpentine, and in twenty-four hours after this, half a pint of olive oil or hog's lard. The other is to give a pint of flax seed oil, and in two hours afterwards two pounds of glauher salts, followed immediately by repeated doses of warm water, for ten or twelve hours."

ADVANTAGES OF SOILING CATTLE.

Von Thaeer highly commends soiling over depasturing, and lays down the following facts as incontrovertible:

"1. A spot of ground which, when pastured upon, will yield sufficient food for only one head, will abundantly maintain four head of cattle in the stable, if the vegetables be mowed in proper time, and given to the cattle in a proper order.

"2. The stall-feeding yields, at least, double the quantity of manure from the same number of cattle; for the best and most efficacious summer manure is produced in the stable, and carried to the fields at the most proper period of its fermentation; whereas, when spread upon the meadows, and exhausted by the air and sun, its power is entirely wasted.

"3. The cattle used to stall-feeding will yield a much greater quantity of milk, and increase faster in weight, when fattening, than when they go to the field.

"4. They are less subject to accidents, do not suffer by the heat, by flies and insects; are not affected by the baneful fogs that are frequent in Germany, and bring on inflammations; on the contrary, if every thing be properly managed, they remain in a state of constant health and vigor."—*Com. to the Board of Agriculture, vol. 1, p. 376.*

Our habits of farming take much from the force of Von Thaeer's facts—for we neither regard land nor manure of any thing the value they do in Prussia; though if we should *run over* less of the former, and better husband and apply the latter, we should undoubtedly be the gainers. Our farmers are apt to boast of the acres they cultivate—of the bushels they sow; but it is very seldom you can come at their nett profits, or the products of an acre.

BREEDING.

Cooper gives us two excellent rules:

"1. Choose those animals or vegetables to propagate from, that possess the qualities you wish to propagate, in the greatest perfection. Volumes may be written to illustrate and confirm this advice, he adds, but nothing can be added to it substantially.

"2. Never quit one good breed, till you can pick out from a better. By following this plain method for a few generations, always seeking for those parents who have the points you want, in the greatest perfection, you will certainly improve your stock, whether of racers, cart-horses, cows, corn or strawberries."

THE VALLEY OF THE MOHAWK,

Is one of the most interesting districts that a stranger can visit, who has a taste for the useful and picturesque of nature. The flats are broad and of great natural fertility. The slopes from the intervalle exhibit a diversified scenery, and afford beautiful sites for farm buildings, orchards and rural embellishments. The fertilizing Mohawk worms its way through the alluvial plain, while the canal on its southern, and the rail-road on its northern border, thronged with boats and cars, and enlivened by the bustle of commerce and travel, afford to the traveller scenes of high and varied interest. The agriculture of the valley has *begun* to improve. Some attention has been paid to draining—the ploughs have been somewhat improved, and there is evidence, though slight, that the value of manures begins to be appreciated. The crops look better than we ever saw them there. The great hindrance to good husbandry seems to be an excess of water, which may generally be got rid of by efficient draining. The existing drains are too shallow, and we saw no evidence of under-draining, for which the materials are abundant, and of the great utility of which we entertain not a doubt. The ploughing appeared to be every where superficial, while the quality of the soil seemed to demand that it should be deep—six to nine inches. Upon the lower levels ridging would prove efficacious in throwing off the surplus water—for small grains and grass, these might be ten to twenty feet, with deep clean middle furrows—for corn, two bout ridges, equal to three feet, would be advantageous in a season like the present. The whole valley might be made a garden, by draining, manuring and deep ploughing.

THE POST OFFICE.

The frequent failures in the receipt of monies, transmitted to us by mail, are matters of sore grievance, and will compel us, if the evil does not abate, to require, that remittances be made no longer at our risk.—The following letters, mailed as indicated, have been stolen from the mail, or lost, in the last four months:

Feb. 21,	mailed by J. Hoy, Pittsfield, Mich.	\$1
23,	do M. Rainsville, Lexington, N. C.	5
23-27,	do W. B. Platt, Rhinebeck,	10
March 1,	do A. V. Wood, Woodville, Jeff.	5
15,	do J. Donaldson, Nelson, Mad.	10
April 1,	do Sol. Henkle, New-Market, Va.	10
1,	do J. Stevens, Warsaw, Va.	5

ANTI-CATTLE CHOKER.

John Conant, of Brandon, Vt. adopts the following mode of removing obstructions in the throat of his cattle, which he affirms is an infallible remedy.

"I take gunpowder," says he in his letter to us, "put up in the form of a common sized cartridge, say three inches in length, introduce it with the hand into the throat of the animal, holding up the head for a moment to prevent its being spit out, and the creature will immediately eject whatever is in the throat without injury. All farmers know how to reach the throat with the hand by holding out the tongue."

— We are aware, as intimated by our New-York correspondent, that the Press Harrow is modelled after the "Spiked Roller;" yet we think the first an improvement on the latter; and whether Mr. Conklin borrowed somewhat from an European model or not, he is equally entitled to the merit of introducing to our agriculture a highly useful implement. Our correspondent's suggestion in regard to hedges has been in part anticipated in our preceding volumes, yet we will comply with his wish. The great desideratum is to obtain an efficient plant that will resist the cold, the drought, and the moles, or ground mice. The English hawthorn suffers from the two first, and the honey locust from the last. Experience must yet decide, whether our native species of thorn, the apple, buckthorn, beach, &c. will answer best the desired purposes. No material, we are afraid, will be likely to succeed, without more care and perseverance than we are accustomed to bestow on this branch of improvement.

STUMP EXTRACTOR.

We have had inquiries from J. M. Garnet, Esq. of Virginia, and from others,

1. What is the price of the machine called a stump extractor?
2. How many oxen are required to work it?
3. How many men are required to manage it?
4. What will it perform? And,
5. What is its promised durability?

We have sought for information that might enable us to answer these questions satisfactorily, but with little success; and we now invite some gentleman to communicate the desired information. We are advised of a machine that is in operation in the valley of the Susquehanna, near the Pennsylvania and New-York line, which, with a pair of oxen and a complement of men, will extract 200 medium sized pine stumps in a day—and that the price of the machine is \$300.

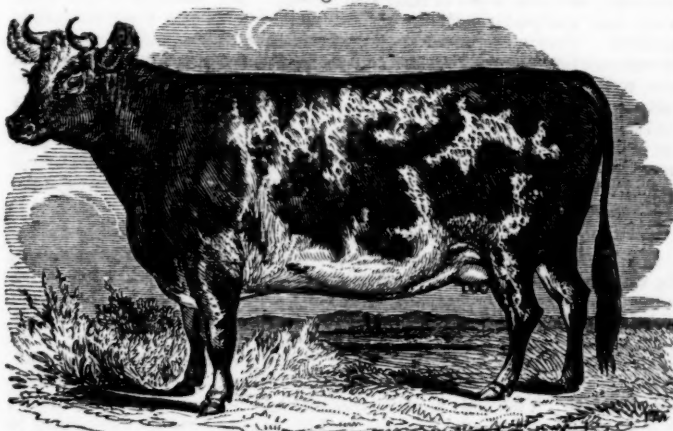
To cure dogs of a sheep-killing propensity, a correspondent at Oxford, successfully adopted the following expedient, which we give in his own words:—"I had a dog which I had raised, and he got into the habit of running after sheep, for which he was frequently and severely whipped, with no other effect than to make him cautious about being seen at his mischief of worrying and killing sheep. Finding it necessary to kill or cure the dog, I called about sixty sheep into a yard containing about one-fourth of an acre, (the yard should be so large that the sheep may exercise the dog from side to side, without being too much crowded.) I then selected one of the strongest wethers, without horns, because horns would be like to get entangled in the rope, and retard the sheep—(a buck would probably do better.) I then tied one end of a flexible rope loosely round the sheep's neck, and the other round the dog's neck carefully, so as not to choke him, nor admit his head to draw out. The length of the rope should be such, that when it is tied on, the dog's head will be about three feet behind the sheep's hind feet, when the sheep is running.—Thus harnessed, the strangely mated pair was let off, and then the sport commenced, and continued, to the gratification of all who attended, about one hour; the wether having the full command, ran, pulling the dog rapidly, who, in his severe struggling to get away, went where he did not want to go, heels over head, among the sheep. The first fright of the sheep, (not of the dog,) being soon over, they stood still; and then by means of salt and calling, I kept them as quiet as I could, till the dog was sufficiently cowed. The wether then turned upon him, and played the battering-ram (butting,) with such effect that he made the dog cry for help, and would undoubtedly have killed him; but when I thought he had enough, I untied them. The dog, ever after this sporting match, showed

a great antipathy to the company of sheep, and when they were called up where he was, he would go off and hide himself, and would never willingly go among sheep afterwards. That a dog may be cured, and sooner mastered and humbled by the sheep, I would advise to tie a cord round one or both his hamstrings, and that the manager of the sport be provided with a whip to keep the dog in order, in case he should incline to quarrel with his new yoke-fellow. If the first sheep tied to the dog should not butt him, tie another, till one be found that will, for *butting* is the very *cap-a-pie* of both the the sport and the final cure.

"G. D. AVERY."

BREEDS OF NEAT CATTLE.

Fig. 30.



We published, in our first volume, a general account of the most approved breeds of cattle. To enable our readers the better to understand the peculiar characteristics of different breeds, we propose to give pictorial drawings of individuals of several breeds, with such remarks upon the peculiarities of each, and their adaptation to particular purposes of the farm, as may serve to assist in making a proper selection. Cattle are reared for the dairy, for labor and for the shambles. Different districts also require different breeds—heavy animals, which are profitable in fertile valleys, and upon rich pastures, not being the best adapted to hilly districts, or poor soils.

We begin with the Ayreshire, a Scotch breed, of rather small size, in high repute as dairy stock, and also for their quick fattening properties; a breed which seems well adapted to our dairy zone, or hilly lands of medium or light quality. Fig. 30 is the drawing of an Ayreshire cow, and fig. 31 that of an Ayreshire bull.

Fig. 31.



The following is given as the criteria of a good Ayreshire cow:—"Head small, but rather long and narrow at the muzzle; the eye small, but smart and lively; the horns small, clear, crooked, and their roots at considerable distance from each other; neck long and slender, tapering towards the head, with no loose skin below; shoulders thin; fore-quarters light; hind-quarters large; back straight, broad behind, the joints rather loose and open; carcass deep, and pelvis capacious, and wide over the hips, with round fleshy buttocks. Tail long and small; legs small and short, with firm joints; udder capacious, broad and square, stretching forward, and neither fleshy, low hung nor loose; the milk veins large and prominent; teats short, all pointing outwards, and at considerable distance from each other; skin thin and loose; hair soft and woolly. The head,

bones, horns, and all parts of least value, small; and the general figure compact and well proportioned."

Product of the Dairy.—The fair average quantity of milk given by a cow, is stated at 600 gallons a year, which, considering her size, is very great. Five gallons per day, for two or three months after calving; three gallons for the next three months, and one gallon and a half during the succeeding months, is stated as a medium proportion. Mr. Aiton, a very good authority, says, hundreds and thousands of these cows, when well kept, will yield 1,000 gallons of milk in a year; that from 3½ to 4 gallons of their milk will make 1½ lbs. avoirdupois of butter; and that 27½ gallons of their milk will produce 36 pounds of full milk cheese. As a mean average, it is affirmed, that a cow will make 257 lbs. of butter, or 514 lbs. of cheese, in a year, besides the value of her buttermilk, or whey, and calf.

It is remarked, that the Ayreshire cattle will fatten on farms where others could not be made to thrive at all; and that they unite, perhaps to a greater degree than any other breed, the supposed incompatible properties of yielding a great deal of milk and beef. Their superiority as milkers is most apparent, on the inferior soil and moist climate of the west of Scotland; and when transferred to rich pasture, their constitution changes, and they make more flesh and less milk. When dry, they take on flesh rapidly, which is of fine quality—the fat being interlarded with the flesh, rather than separated in the form of tallow.—See "Cattle," in the *Library of Useful Knowledge*, p. 126, &c.

MASSACHUSETTS AGRICULTURAL PREMIUMS.

The Massachusetts Society for the Promotion of Agriculture, have published a list of premiums, to be awarded principally the current year, amounting in the aggregate to more than \$2,000. We subjoin an abstract of these premiums, as well for the information of our patrons in that state, as affording matter of general interest.

For the best cultivated farm,.....	\$150
For the next best cultivated farm,.....	100
For the best rotation of crops on the same land, not less than two acres, for three or four years in succession, commencing when it is in grass,.....	75
For the best experiment in enriching land by turning in green crops, and without manure,.....	75
For the best mode of making compost, with dung muck or mud, with or without lime,.....	50
The preceding premiums to be claimed in 1838-'39.	
For the greatest carrot crop on an acre,.....	30
" half an acre,.....	15
For the best acre of common beets,.....	20
" half acre of do.	10
best acre of mangold wurtzel,.....	30
" half acre do.	15
best acre of parsnips,.....	20
" half acre of do.	10
best acre of ruta бага,.....	30
" half acre of do.	15
best acre of common turnips,.....	20
" half acre of do.	10
best acre of onions,.....	20
" half acre of do.	10
best acre of cabbages,.....	20
" half acre of do.	10
For the greatest quantity of sugar beets, raised on not less than two acres, in the current and two following years, a premium, in each year, of.....	800
For like premiums for the greatest quantity of sugar manufactured from the beet in those years,.....	300
For the greatest quantity of vegetables, and a detail of the relative profits of feeding them to farm stock,.....	30
For the best Indian corn, wheat, rye, millet, peas, beans, mustard, flax and hemp, on an acre, premiums amounting in the aggregate to.....	210
For an effectual mode of extirpating the locust worm,.....	100
do. the apple tree borer,.....	50
For a newly invented and superior agricultural machine,.....	20
" the best experiment in feeding and fattening neat cattle,.....	20
" greatest quantity of homemade raw silk,.....	20
For the best plantation of oak, from seed, one acre, not less than 1,000 trees, three years old,.....	50
For the best like plantation of white ash, larch, and yellow locust, each \$25,.....	75
For the best 50 rods of live hedge,.....	30
Claims for premiums to be forwarded to Benj. Guild, Esq. Boston, free of expense, generally before the fast day of December next.	

Agricultural Survey of Massachusetts.—We are happy to learn, from the *New-England Farmer*, that the Governor of Massachusetts has appointed the Rev. H. Colman, favorable known to the agricultural reader, to be commissioner for making an agricultural survey of that state.

TRANSACTIONS OF THE OLD AGRICULTURAL SOCIETY.

We renew our notice of the first volume.

EFFECTS OF SEA-WEED AS MANURE.

Mr. L'Hommedieu, who was a large contributor to these volumes, gives a communication on manuring with sea-weed, and with shells. He contracted for one hundred tons of sea-weed, at fourteen pence per ton, which was applied to five acres of poor dry land, on which little grew but *five-fingers* and *ground pine*, and the land was sown with wheat and clover. The product was about seventeen bushels of wheat the acre, and the second year a ton of clover; and the nett profit six dollars and fifty cents per acre on the wheat crop. The value of the land was enhanced from forty shillings to five pounds the acre.

DESTRUCTION OF HEDGES.

Mr. L'Hommedieu, in another communication, in 1794, gives an account of the entire destruction of the prim and black thorn hedges, amounting in the aggregate, in the towns only of East and Southampton, to four hundred miles of good fence. No cause is assigned for the sudden death of all the prim; but the black thorn was destroyed by a fly, "which makes a hole through the bark of the thorn, and there deposits its eggs or maggots; the sap of the thorn runs out at this hole and hardens on the bark, and becomes a hard bunch round the limb," prevented circulation, killed the limbs, and ultimately the plant. This is the same enemy that has attacked and destroyed many of our plums and morello cherries. Mr. L'H. recommends the native thorn as a substitute for hedges, which, he says, makes a better fence than the European; but the same difficulty, of getting the haws to grow, which we now experience with the seed of the northern thorn, prevented its culture then. Mr. L'H. also recommends the sowing of apple seeds, or apple pomace, on the banks of ditches, that the plants, when grown a few years, may serve as a hedge.

ON IMPROVING LANDS BY CLOVER.

To improve a very poor piece of land, which grew only moss, *five-fingers* and a few daisies, Mr. L'Hommedieu succeeded by sowing upon it cloverseed alone, four quarts to the acre. It gave a tolerable product, and improved the land. He considers this preferable to sowing clover with grain upon very poor land, as the grain exhausts the little fertility which the soil possesses, and the clover is consequently starved. The hint is worthy of notice.

ON RAISING CALVES,

Also from L'Hommedieu. The importance of taking calves early from the cows, and of keeping them well through the first season, that they may not be stinted in their growth, is particularly enforced. And calves, says the writer, do best in pastures where there is no water; as, from the habit of taking all their food from the cow in a liquid form, they are apt to drink too much, where they have access to water, and become pot-bellied. "Last year," says Mr. L'H. "I saw in a pasture without water, more than twenty calves, in which they had been kept from the time of their being taken from the cows till some time in the fall. I frequently saw them, and observed them more attentively on account of the particular manner in which they were kept. They were all thrifty, and particularly gaunt or small-bellied, which the owner, a gentleman of Suffolk, imputed to their not having water, and observed that he never had calves do so well before." "When there is no water in the lot, the calves, he supposed, are obliged to feed on grass which contains some moisture, and soon learn to allay their thirst while the dew is on, and for the sake of the moisture or dew on the grass, eat much more than they would do if they could go to water, and soon get accustomed to feed in the night and in the morning, before the dews are exhaled." Mr. L'H. attaches virtue to herbage when impregnated with dew, and thinks it possesses peculiar nutritive properties at that time. He instances a horse, which ate freely coarse sedge grass, and thrived upon it, when charged with dew, but would not eat it when the dew was exhaled.

FREEING SEED GRAIN FROM OATS.

Barley and spring wheat are apt to be mixed with oats. The following is the mode recommended in the transactions for separating them. Take a large tub, filled with water, and let the barley or wheat run slowly into it; the oats and light grain will swim on the surface, and must be skimmed off—the heavy and vigorous grains will sink to the bottom, and are preserved for sowing.

LUCERN.

A paper on the culture and products of this grass, by P. De Labigaire, Esq. affords some facts worth noting. He says, plough twice, at least twelve or fifteen inches deep, and completely pulverize the soil. He prefers sowing the seed by itself, without grain or other grass, twenty pounds to the acre. The best dung for top dressing lucern, is hen and pigeon dung, first dried and pulverized, and sown sparingly, and the next, mud taken from creeks and swamps. The lucern acquires its full strength the third year, when, at three cuttings, it will yield 2,500, 1,400, and 600 pounds of hay. It may then be fed off. It should be mown when in flower, and alternated, in the mow, with barley or other straw.

MULBERRY HEDGES

Mr. De Labigaire gives us the European practice in this matter. And

he states, too, what we commend to the particular notice of our prairie patrons, that red elm and birch are reckoned among the best plants for hedges, on account of their flexibility to be interwoven from the foot to the top, so as to be impassable. We can confirm this remark, in regard to the elm, from our own experience. Its top and branches may be intertwin'd in any direction, and yet live and grow. In the environs of Lyons, the mulberry had been successfully used for hedges, and not only made an efficient fence, but afforded abundance of food for the silk-worm. Hear what this correspondent adds:

"The 20th April, 1784, after the silk-worms were out of their first mewing, about 1,200 of them were spread upon a mulberry hedge. They remained exposed to the intemperance of the season, which, having been very cold, left little hopes of their succeeding. We took care to visit them every day, and particularly during the violent rains and most boisterous weather. They were never seen very sensitive to the cold, nor exerting themselves for shelter. On the contrary, they remained motionless, and bore well the storm. In short, neither the cold nor the heat appeared to make much impression upon them. They were free from the disorders commonly attending those attended with the greatest care and trouble in the houses. Notwithstanding the bad season, which we might have supposed would have killed them all, out of the 1,200 we gathered 450 cocoons, which proved to be the finest silk ever raised in France; these cocoons gave two pounds seven ounces raw silk."

TO RAISE THE MULBERRY HEDGE,

Mr. De Labigaire directs as follows: "Round the field to be enclosed, dig up a ditch three feet wide and two feet deep; the longest roots of the young plants being cut off near the hairy fibres, must be planted about eighteen inches deep, at the distance of three or four inches [twelve we think near enough,] from each other. After the ditch is filled up, every shoot must be cut at the height of two or three inches above the ground. Whether the plant is big or not, there is no matter, provided it is at least one year old. The time to plant these hedges is the beginning of April, [last of April or first of May here.] The second year it is necessary to cut again the shoots about six inches above the ground, in order to give more strength to the sprouting branches, which will form a pretty strong hedge the third year, and at last grow so thick as to be impassable by cattle. It may be twisted and interwoven a great deal easier than the hawthorn. If you choose to make a strong hedge, you may plant it in double rows. For three years the young wood must be defended against cattle. No insect attacks the mulberry."

The subject of mulberry hedges is deserving of all attention from silk-growers; and the experiment of making the home of the worm upon the hedge, is worthy of experiment, at least in the milder sections of our country.

The common *Mullein*, (*Verbascum*,) Harkhermer informs us, after being properly cleared of the adhering earth and other impurities, is extensively used in German granaries, roots, stocks and flowers, in order to prevent the depredations of mice, and that it affords a complete protection against these vermin. Bundles of it are placed in every corner, and on the grain itself. The mice will suddenly disappear from barns where it is placed.

Cellars—It is a practice in Germany, worthy of our imitation, to keep open a communication between the cellars and the principle chimney of the house, to enable the noxious air, more or less generated there, to escape. It also promotes the draft of the chimney. The air in cellars often becomes highly deleterious to health, and the sickness of families may frequently be traced to the stagnant and noisome air in these underground apartments. Where there are different apartments in a cellar, ventilation should be provided for, by leaving a passage open over the doors of communication.

AGRICULTURAL PUBLICATIONS.

The New-York Farmer, published at New-York by Messrs. Minor & Shaeffer, hitherto a monthly publication, is now to be published semi-monthly, on a sheet of 16 pages, of the size of the *Cultivator*—price \$3 a year, in advance. This was the earliest agricultural periodical established in this state, after the *Ploughboy*.

The Farmers' Cabinet, is the title of a neat, well conducted, agricultural periodical, of 16 octavo pages, published the last ten months at Philadelphia, by Moore & Waterhouse, at one dollar per annum, the numbers of which have recently first met our observation.

The Western Agriculturist, devoted to agriculture and the mechanic arts, has just been commenced at Ravenna, Ohio, by E. R. Selby, 8 pages, small quarto, monthly, at one dollar a year.

Cure for the Bloody Murrain.—J. J. Deming, of Mishawaka, Ia. writes us under date of May 15—"I have recently saved a valuable ox, which had the bloody murrain, (of which great numbers of cattle die in this country,) by giving a gallon of a strong decoction of red cedar boughs—then another gallon after three hours.

W. Murphy, of New-Scotland, asks our advice with regard to planting an orchard of peaches, pears and plums. His soil is clay, somewhat intermixed with gravel, sloping to the south-east, and sheltered on the north-west by high ground and wood. The soil seems adapted to the pear and plum, more than to the peach; the aspect is good, and the shelter beneficial. He should plant varieties that come in succession, sufficient for family use, and select a good variety of each for the main market crop.—The holes should be dug three feet in diameter and eighteen inches deep, and filled, when the trees are planted, with the best surface mould. Cattle should be kept from the enclosure, and the ground about the trees kept clean and mellow. For varieties, we refer to the nursery catalogues, where the time of ripening and quality of the fruit are generally noted.

CORRESPONDENCE.

ON STEEPING SEED CORN.

Cedar Brook, Plainfield, Essex county, N. J. 27th May, 1837.

J. BUEL, Esq.—DEAR SIR—Having closed my business in the city of New-York, I last year purchased a farm in this place, about 100 acres of which is very uniform in quality, nearly a smooth gentle declining plain to the south, except where Cedar Brook passes through it from north to south, which is a remarkable stream for its purity, permanency and uniformity of temperature, not freezing when the thermometer is ten degrees below zero. The soil is uniformly a dark brown loam, in some parts mingled with pebble stones, from six to eight inches deep, none too moist; the subsoil is dark yellow and tenacious, from nine to twelve inches deep, with a preponderance of alumina, resting on a loose gravel, several feet in depth. I have thus briefly described the soil, as I think *always ought to be done*, when experiments and facts are stated for public use.

I commenced taking several useful publications on agriculture, none of which I esteem more valuable than the *Cultivator*. Not getting possession of my farm until late in the season, I did little the past year. To hasten the vegetation of my corn, planted after the middle of May, I endeavored to follow the recommendation of soaking and preparing the seed, and about one-half only germinated. About the first June, I replanted; had a great growth of stalks, but the corn from the later planting was all cut off by the frost, before it was at maturity. I attributed the failure to a long cold storm, while the grain was in the earth. Having this year about twenty acres that had been twice mowed, and after being seeded with clover and timothy, I spread upon about half, twenty loads of good manure to an acre. It was then well ploughed, rolled and harrowed twice, raising a fine mellow soil. My seed corn, mostly of the Jersey white, was selected with great care, was soaked in water over night, with five spoonfuls of tar to a bushel of seed, at about 130° of heat, when the water was applied. In the morning it was drained and sprinkled with ashes and plaster, and generally planted the same day. We commenced the first week in this month, and finished in about eight days, the weather being very fine for the season. At the end of two weeks, not one seed in twenty had germinated, except a few rows planted directly from the cob, which came up well. We planted about half an acre of the large eight rowed Connecticut yellow, about half an acre of the Dutton, half an acre of golden Sioux, and several small pieces of various kinds for trial. The Dutton and Sioux have vegetated the best. Where we spread no manure, we added about a spoonful of ashes and plaster to every hill as we planted, and perceive no difference in germinating. We have replanted about four acres with dry seed, and calculate to go over the whole, though probably the crop will be nearly a total failure if we have early frosts.

I have been thus particular in what I have *done*, that others may guard against my mistakes. Being well satisfied that the failure has been owing to the preparation of the seed, as the rows planted unprepared have come up well, and my neighbors planted about the same time, the same kind of seed, on similar land, which has come up remarkably well. I shall be greatly obliged for your free opinion of the cause of my want of success. I am making some experiments on recommendations which are yet to be tested. I am however satisfied that more attention is requisite in description of *location* and *soil*, by those who give recommendations for the public.

I would beg leave to request your correspondents to give their names, the state and place of their residence, that inquiries may be made of them by mail. There have been some I should have written to had I known where to address them. I am, with great respect, yours, &c.

DAVID L. DODGE.

REMARK.—Our practice, for sixteen years, has been to steep our seed corn in the manner we have recommended, dissolving half a pint of crude salt-petre in the steep—and the seed has never failed to grow—except in one case, where a part of the corn, after steeping, was left exposed a day or two to the sun, by accident. That which was planted immediately from the steep grew well—that which was exposed did not do well.

THE WHITE GRUB.

DEAR SIR—Being a constant reader of your useful paper, and do not recollect reading much concerning the destruction of the large white

grub with a reddish head. Our county is very much infested with them, to the injury of many of the crops, and are increasing rapidly.

I think some knowledge on the subject ought to be solicited and diffused, and exertions made for their destruction. It appears that the grub changes into the bug every two years, and then deposits its eggs in the earth for their future progeny. This year they will be in the bug, and then an exertion ought to be made, to destroy them, before they deposit their eggs, which may be done in a great measure, by keeping up a steady flame in the fore part of the evening, (for they do not fly more than an hour,) and they will fly from one to two hundred rods to get to it, and are sure to find their end. I witnessed the effect of it in 1835; one of my neighbors made a fire of dry brush, and kept a flame steady for three-quarters of an hour, and it was incredible to witness the number that flew into it. The fire was over one hundred rods from my house, and as soon as the light was visible, the bugs all left thumping at my windows, where they were attracted by the light of the candles, which gave me just reason to believe they went to the fire, and the land has been clear from the grub for the same distance around the fire. I am confident that if farmers would agree, and make fires of some light materials, as brush or old rails, in the fore part of the evening, from one to two hundred rods apart, for two evenings in a week, when the bugs fly, they would destroy the whole race of them, and save the destruction of their crops.

Rutland, Jefferson county, 1837.

C. P. KIMBALL.

REMARK.—We are not aware that the grub above described, is of any serious injury to crops, not having ever discovered that it preyed upon plants. All insects were created for wise purposes; some, perhaps, to put in requisition the constant vigilance and industry of man—some to prey upon the more destructive families of insects—as the ichneumon upon plant lice. The injury ought to be palpable and serious, before we wage a war of extermination against any class of animated beings, which we have reason to believe were not created but for purposes of good.—*Cond.*

DIRECTIONS FOR MAKING CURRANT WINE.

Our Tennessee correspondent, who communicated the following, says—“We are now using some wine, made according to this recipe, and find it decidedly superior to any foreign wine for the table. The imported wines are all too strong.”

Gather your currants when fully ripe; break them well in a tub; press them through a sifter; then strain them through a flannel bag, and measure the juice. Add two gallons of water to one of juice; put three pounds of New-Orleans sugar; stir it till the sugar is quite dissolved. In straining the juice of the currant, use a hair sieve, and not one of wire; then use a close tow linen bag, and afterwards a flannel one, to pass the juice through. The juice must not be permitted to stand over night.—Observe that the cask be sweet and clean, and such as has never been used for beer or cider, and if new, let it be well seasoned. Do not fill your cask too full, otherwise it works out at the bung, which is injurious to the wine—rather make a proportionate quantity over and above, that after drawing off some of the wine, you may have enough to fill up the cask. Lay the bung lightly on the hole to prevent flies, &c. from creeping in. In three or four weeks the bung hole may be stopped up leaving only the vent hole open till it has done working, which is generally the middle or last of October. It may then be racked off if you please, but I think it best to leave it on the lees till spring, and if not wanted for present use, it may be left on the lees for two years without damage.

When you draw off the wine, bore a hole an inch at least from the tap hole, and a little to one side of it, that it may run off clear of the lees.—Some put in spirit, but I do not think it advisable. Do not suffer yourself to be prevailed on to put more than one-third juice, for that would render the wine hard and unpleasant, nor too much sugar, as that would deprive it of its pure vinous taste. It improves by age.

HINTS ON DIET.

Stephentown, March 7, 1837.

DEAR SIR—In the present [March] number of the *Cultivator*, I notice “Hints on Diet,” and am rejoiced to see you take up the subject, for I do believe that seven-eighths of the diseases which our country is subject to, and that seven-eighths of the premature deaths, originate in the indulgence of the appetite. By overloading “the stomach, fermentation is checked;” disease must and will necessarily follow. People are ignorant of this; few look into this subject. Why is it so? I answer in the words of Adam, “The woman thou gavest me” cooked, and I did eat; they cook so many kinds at once, and are sure to set on the poorest first, and we eat until satisfied with that part, then comes something more tempting, then another dish, and another; in this way, we in almost all cases eat too much, and disease follows. Now, if instead of having these different kinds at one meal, we should take them separately, breakfast on one, and dine on another, it is not probable we should eat too much.

Mothers love their children so well that they kill them with kindness

If they are taken sick by surfeiting, and loathe their food, the mother will say, my dear, you must eat; you cannot live without eating; and the child believes its mother, crams in the food, and sometimes vomiting will succeed, and not unfrequently fever, inflammation and death follow. Napoleon Bonaparte was seldom ever sick, though he was exposed in all climates and to all weathers, sometimes wet and cold day after day; then again near the torrid zone, where the plague raged among his soldiers. In all of his travels, whether by day or night, by land or sea, he says he never had a physician but twice to attend him. When he was sick, it was his practice to fast until the disease had fled. He took care not to eat too much; and this is one reason he was so healthy. Regularity in diet, in sleep, and in labor, should be followed as near as can be, in order to preserve health and happiness. We certainly cannot be happy in this world if deprived of our health, and we should use all means to preserve it.

Your friend and well wisher,

A. WOOD, Jr.

CORN BREAD.

The south has been long celebrated for its grateful corn bread, cakes, muffins and homminy. In consequence of an invitation in the Cultivator, a young lady in Tennessee, has kindly sent us the following directions for making these domestic delicacies of the table, for which we respectfully tender her our acknowledgments.

PLAIN CORN BREAD.

Six pints meal, one table-spoonful salt, four pints water; thoroughly mixed with the hand, and baked in oblong rolls about two inches thick. Use as much dough for each roll as can be conveniently shaped in the hand. Many persons use hot water; in winter it is certainly best. The bread is better to be made half an hour or more before it is baked. The oven must be tolerably hot when the dough is put in. All kinds of corn bread require a hotter oven and to be baked quicker than flour.

LIGHT CORN BREAD.

Stir four pints meal into three pints tepid water; add one large tea-spoonful salt; let it rise five or six hours; then stir up with the hand and bake in a brisk oven. Another method is to make mush, and before it grows cold, stir in half a pint of meal. Let it rise and bake as the first.

CORN CAKES.

Six eggs well beaten, one pint milk, one tea-spoonful salt, two pints mush almost cold, two pints meal, and three table-spoonsful melted lard. Grease the oven and put one large spoonful of batter in each cake. Do not let them touch in baking.

CORN MUFFINS.

Made in the same way as corn cakes; grease the muffin hoops and heat the oven slightly, before putting in either corn cakes or muffins. A better muffin is made by substituting two pints flour instead of meal.

BEST BATTER CAKES OR MUSH CAKES.

Beat the yolks of eggs very light, add one pint milk, two pints mush almost cold, $1\frac{1}{2}$ pints flour, one tea-spoonful salt, three table-spoonsful melted butter. To be well beaten together. Just before frying them whip the whites to a strong froth, and stir it lightly into the batter. For frying all kinds of batter cakes, use no more lard than is necessary to make them turn well.

MUSH.

Put two pints of water into a pot to boil; then take one pint cold water and mix smoothly into it one pint meal. When the water in the pot boils stir this well into it, and let it boil ten or fifteen minutes, or until it looks clear.

COMMON BATTER CAKES.

Six eggs well beaten, $2\frac{1}{2}$ pints milk, one tea-spoonful salt, stir in three pints meal that has been thrice sifted through a common sifter. Keep the batter well stirred while frying, otherwise the meal will settle at the bottom.

BEATING HOMMINY.

Soak the homminy corn ten minutes in boiling water; then take the corn up and put it into the homminy mortar, and beat it until the husks are all separated from the corn. Once or twice while beating it, take it out of the mortar and fan it; that is, throw up on a tray or bowl so as to allow the husks to fly off. When sufficiently beaten, fan it until all the husks are out.

PREPARING HOMMINY FOR THE TABLE.

It must be thoroughly washed in cold water, rubbing it well with the hands; then washed in the same way in warm water, changing the water several times. Put it into a large pot of cold water, and boil steadily eight or ten hours, keeping it closely covered. Add hot water frequently while boiling, otherwise the homminy will burn and be dark colored. When homminy beans are used, one pint to a gallon of homminy, to be put in when the homminy is put on. If it is put on the first thing in the morning, and kept briskly boiling, it will be ready for dinner at two o'clock. Season with butter and send it to the table hot.

But the usual mode is to boil homminy twice a week, and put it into a wooden or stone vessel, and set it in a cool place to prevent its becoming

musty. When wanted for use, take the quantity necessary for breakfast or dinner, and having put a small quantity of lard into an oven, let it become hot; put in the homminy and mash it well, adding some salt; when well heated it is ready for the table. Some persons allow it to bake at the bottom, and turn the crust over the homminy when put on the dish. Be careful to have no smoke under the pot while boiling, or when frying it for the table. Few things require more care or nicety in their preparation than homminy.

(These pints were all measured with the common tin cup.)

SHEEP BARN—RUTA BAGA.

New-Lebanon, May 26, 1837.

DEAR SIR—As you are engaged in agriculture, and no doubt take an interest in all improvements, I enclose you a sketch of a barn, [fig. 32.]



which I built last season for the accommodation of sheep—141 by 40 feet, with a basement, three sides of which are built of stone laid in mortar, $6\frac{1}{2}$ feet high in the rear and $7\frac{1}{2}$ in front, with a cellar 40 by 16, which will hold about 2,500 bushels roots, which are dropped into it through a trap door from the outer floor. The barn will hold from 80 to 100 tons of hay, besides grain, straw, &c. The basement will conveniently hold 700 sheep, where they are fed with hay, ruta бага, and watered. In cold weather, we close the doors and windows,* and throw them open in mild weather, and is sufficiently warm in March and April, for young lambs. We shear on the centre floor, and have a wool room plastered on the right. Our flock consists of about 1,000 of the finest Saxony sheep, and we have long found it difficult to keep these fine and tender sheep sufficiently warm, and particularly to guard young lambs against the vicissitudes of the weather, even in April.

We think ruta бага are decidedly preferable to any other roots, and raised about three thousand bushels last season. They are as valuable for cattle as for sheep.

The enormous high prices which are demanded for oxen and cows, as well as for butter and cheese, admonish us that the people of this country have run too much into sheep, to the neglect of cattle; which the good sense of the farmers will soon rectify. We have an earnest of this from the number of calves which we see in the pasture of almost every farmer. I enclose a few samples of our wool.

I am very respectfully yours, &c.

E. TILDEN.

Wilkinson's Cross Roads, Tennessee, May 22d, 1837.

J. BUEL—DEAR SIR—A few of us are quite busy in trying to extend the circulation of the Cultivator. In it we see no scurrilous abuse—no ill-natured thing said by one rogue against another—no party strife manifested, by persons hunting for place, power and authority. We witness in it none of the mad-cap folly of political gamblers, nor heartless demagogues. We read of no religious fanatic denouncing his honest neighbor, because he will not believe the absurdities and licentious stuff which he proclaims. It is telling us in every page, how to recover from the panic—how to escape the weight of the pressure—how to live without banks, and always to have a surplus revenue of our own. Hence we like it, and are quitting the reading political papers, and soberly returning to the natural business of man. The first business which God put man to do, you know, was to cultivate the soil. This was the first business of all. Abel was a shepherd, or a tender of stock, which in the eye of the Deity, was the second in the list of duties. Cain, after he had killed his stock-raising brother, fled, and became carpenter, for you know he built a city. To till the soil, to raise stock, and to make houses, were the occupations which God put our forefathers at, and I reckon it would have been best, had we, their sons, pursued their calling. I intend getting back to those vocations.

About Nashville, and in the county of Rutherford, we are getting some superior Durham cattle, imported from Mr. Murdock's pasture, and some first rate breeding hogs. I may hereafter say more to you about some of them.

Respectfully,

FRED. E. BECTON.

* We doubt the propriety of closing the doors and windows at any time, except during a driving snow storm. No animal is more sensitive to foul air than the sheep; and 700 of these animals will soon vitiate the air of the basement story. We think it would be an improvement to have doors or ventilators, on the ends and rear, as well as in front.

If we were to prescribe rules in regard to the management of sheep, they would be something like the following:—1. Give them pure air; 2. feed them well; 3. keep them dry; 4. give them salt often; and 5. graze them in hilly, stony pastures.—*Concl.*

THE CHICKEN.

Norwalk, June 21st, 1837.

J. BUEL.—DEAR SIR—Permit me to make an inquiry or two upon another topic. Is the real manner in which the chick escapes from the shell, in the process of hatching, known to you and the readers of the Cultivator? or is it the generally received opinion, that it is liberated by the efforts of the mother? If the affirmative of the latter question is true, there is a prevalent mistake upon the subject; and although it may seem but a small matter, the real process is exceedingly interesting, and a knowledge of it will be of some practical utility.

Every one accustomed to the management of poultry has probably noticed, that fowls will sit six or eight weeks upon addled eggs, without attempting to break them—that successive nests full of eggs may be given to the same fowl, and that, if the young are taken away, she will continue to sit—that a laying fowl may leave her eggs in the nest of a sitting one, and if the young are taken away as fast as hatched, she will sit on until she has finished—and that a hen, sitting on the eggs of a turkey, or goose, will not attempt to break them at the end of three weeks. But these facts are not consistent with the idea, that at the termination of the period of incubation, the mother sets to work and liberates her own offspring. The truth is, that the escape of the chick is by a natural, uniform, and singular method, and by its own efforts; and that, any interference by the mother, or any thing else, will stop the process and destroy its life.

The chick lies in the shell with its feet and tail towards the small end; its neck towards the large end, with its head bent down under the neck, and lodged on one side under the wing of that side, and with the bill projecting up, between the wing and side, parallel with the top of the back. When it has attained a sufficient growth to feel the confinement of the shell, it struggles and forces its bill through it. But the singularity of the arrangement is, that, from the peculiar situation of the head on the side, the chick is turned, by each successive struggle and the resistance of the shell, about one-eighth of an inch round, and every effort breaks a new portion, or rather continues the breakage until, when about three-fourths or more of the shell is broken, in a direct line round, the remaining portion gives way, during the next struggle, and it kicks itself out into the nest—leaving the shell, thus divided, adhering by the small portion of the lining membrane, which the bill of the chick has not broken.—Any person who will take the trouble to examine a nest of shells, after the hen has left it with her young, will find them thus divided and thus adhering, appearing as if severed nearly in two, and then broken. There is another singular circumstance connected with this evolution. A portion of the blood of the chick circulates through an opening in its belly, into the lining membrane of the shell, to be exposed to the vivifying influence of the air. If this membrane is torn before the circulation in it is stopped by the vessels being twisted by the evolution in the turning of the chick, it will bleed freely and the chick will die. And if the shell, when partially broken round, is mashed so as to interfere with the turning process, the chick will die unhatched. Not unfrequently it happens, that the chick breaks the shell entirely round, but, owing to the toughness of the lining membrane, it is but partially broken, and in that case, if the chick is not taken out by hand, it will never get out. I have found three eggs out of twelve, after the hen had left the nest, in this predicament. B.

THE WOOL MARKET.

As clipping time is near at hand, I have thought some remarks on the subject of wool would not be uninteresting to those who are engaged in sheep husbandry. I am largely interested myself, and with a view of learning the actual state of the market, I have just visited many of the manufacturing towns of Connecticut and Massachusetts.

In consequence of the extensive failures or suspensions of many of the large commission houses in New-York, the manufacturers were more or less embarrassed. The losses of some were so great as to cause a failure, while others, witnessing the storm around them, immediately stopped their mills and discharged their hands. The great majority of woollen mills are of this class, who stopped from expediency, more than necessity. They have worked all their wool and finished all their goods, and only wait for a change of times to start their machinery again.

Nearly every mill has on hand the cloths manufactured in the last four months, and they will not be sent to market till the fall sales commence, when fair prices will doubtless be obtained.

The stock of domestic woollen goods in Philadelphia, New-York, or even in the country, is not large. There is no difficulty from an over-supply. It is well known that there will be few or no woollen goods imported this season, and our own manufacturers will have the entire benefit of the market.

The present state of affairs prevents the importation of either wool or woollen goods. The duties are required to be paid in cash, when imported, which now amount to almost prohibition. Indeed, since the bursting of the credit-system, as practised by importers, goods will hereafter, from necessity, be imported for cash.

All these things will eventually help our manufacturers, by giving them

the market of this country, quite as effectually as by an excessive tariff of duties.

The manufacturers of New-England are by no means broke down or disheartened, but like prudent men, are holding up for a change of times. They will do very little for the next ninety days, but by that time they will nearly all be at work. It is evident there will be no demand for wool till fall, when I see no reason why good prices should not be obtained. If cloths sell well, wool must do the same.

Every man can make his own inference, but my advice to wool growers is, not to dispose of their wool this summer, but by all means keep it till fall. After shearing, place it in a pile, in a clean, dry loft, and cover it over with blankets, and there keep it till business is again resumed. Many will probably sell at once, for the most they can get, and thereby deprive themselves of a better market, later in the season.

Yours, &c.

OTSEGO.

June, 1837.

TO DESTROY WORMS—THE GRUB—THE LOCUST BORER.

Windsor, Broome co. N. Y. 25th May, 1837.

J. BUEL.—Dear Sir,—If your correspondents, who inquire how to destroy worms in their gardens and fields, will mix strong wood ashes with the surface of their ground, they will be relieved from their depredations. To prevent the destruction of cut worms, it is only necessary to place ashes about the plants which they prey upon—the ashes must, however, always be wet, but the rains and moisture of the earth are usually sufficient, if not, artificial watering must be resorted to—the effect will last several weeks, and the quantity of ashes need not be very large. Dry ashes or lime has no sensible effect, as I have frequently witnessed from numerous experiments. It is true, that some labor and care are necessary, and the application sometimes needs repeating. A seasonable use of ashes will prevent turnips and other roots from being wormy; it is a very good way to sow ashes on field turnips when the seed is sown. The above statements I have verified by five years experience. I suppose lime or salt (muriate of soda) as good as ashes for the destruction of vermin.

I intend, hereafter, to send you a communication on the cultivation of the pear and the yellow locust. The borer, so formidable to the latter, is, I believe, invited by a diseased state of the tree; which disease, if it be one, may be entirely avoided. Be that as it may, it is certain that the borer may be avoided. Healthy trees are not usually attacked by borers, the apple and some others may be exceptions. The primary cause of the fire blight, so destructive to the pear, must, I believe, be looked for in the vegetable physiology of the tree, and traced to improper cultivation. This idea does not ensure the absence of insects as its immediate cause, for nature, who undoubtedly is an excellent cultivator of her locusts, seldom or never has any borers among them; whereas, when they come under the cultivation of man, they are sometimes eaten up before they are grown up. I once informed you what I deemed a preventive of the fire blight in the pear, and every year since has confirmed me in my opinion.

I am with respect yours, &c.

N. BLATCHLY.

REMARK.—Our correspondent resides in a district where the locust seems indigenous, and where the borer has probably not yet made much progress. This insect, we have no doubt, is the cause, and not the consequence, of the disease in the locust.—Cond.

DIRECTIONS FOR MAKING CHEESE.

Mr. J. BUEL.—Sir,—In the first number of the current volume of the Cultivator, you invite to discussion on the best method for the attainment of certain purposes therein mentioned. The subjects proposed I conceive to be highly interesting to every agriculturist, and hope that the facts that may be elicited will prove beneficial to your numerous readers, and promote the purposes for which your useful pages are so eminently calculated. For a considerable number of years my attention has been turned to the dairy, and particularly to the manufacture of that kind of cheese known in market as English imitation. Although this article is in good demand, and its consumption much on the increase, it is not extensively made in this country, nor is the method of making it very generally known. Conceiving that this kind, as much as any other, is embraced in your invitation, I have concluded, in this communication, to give a detailed statement of the whole process, founded strictly on my own practice, and accompanied occasionally with such remarks as I think may be useful to such as are unacquainted with the business. The few following preliminary observations, if attended to, will be of service:

That a dairy may become profitable, special attention to various particulars is absolutely necessary; among the most prominent are the following: That the cows be good milkers, and the milk of good quality; that they be well wintered, so that they may come in in good order; that they come in in the proper time; and that they have abundance of pasture through the milking season.

Cleanliness is absolutely indispensable in the manufacture of good butter or cheese; no vessel or utensil should be used without being washed and properly scalded, from the churn to the butter ladle, or from the

cheese tub to the cheese cloth. A strict observance of this rule will greatly enhance the value of the article; and as considerable manipulation is necessary in making that kind of cheese I am about to treat of, consequently the ablution of the hands and arms cannot be too scrupulously attended to.

English imitation cheese.—This variety of cheese, as above hinted, is not exclusively made in this country, although it is very saleable in the New-York and other markets. Owing to their size and solidity, they are well adapted for a warm climate, hence the call for them from the south. They are much used for ships stores, and as they are not very liable to spoil by age, they are frequently kept until toward the end of the following season, when other varieties become scarce, when they prove a fine, sound, old cheese. They weigh from fifteen to twenty pounds. Their color should be as near as possible to rich grass made butter. In former years they have sold from one to two cents per pound higher than those known by the name of American cheese, and as they lose more in weight, it ought to be so, to afford the manufacturer an equal profit. Yet for the last two years the best American dairies have fully equalled them in price. They sold in the New-York market last fall at eleven cents per pound at wholesale.

Number of cows.—From fifteen to twenty good cows are necessary to make the best quality of this article; with that number, one cheese may be made at every milking through the cheese making season, and three or four each day for five or six weeks during the flush of the milk. To put two milkings to one cheese, which must be done where the number of cows are much smaller, deteriorates it in quality, inasmuch as the oily part of the cream that is collected cannot be converted into curd, and is in too liquid a state to be retained, and consequently will either float off with the whey, or be expressed by the press.* Farther, milk as it comes from the cow has a peculiarly sweet flavor, which it soon loses by standing, and so must be lost to the cheese.

Milking.—The cows should be in the yard and milking commenced at a particular hour every night and morning, say six o'clock; if the time is much varied it injures the cows, and the quantities of milk will not be so regular. The milk is to be carried direct to the cheese tub and carefully strained into it. When the weather is moderate, the milk, as it comes from the cow, is in the proper state for coagulation; but if the weather is very hot, a pan of cold milk, saved for that purpose, may be added; if cool, as much may be warmed as will bring the whole to the proper temperature.

The cheese tub should be large enough to contain seventeen or eighteen pails of milk, and have a cover properly fitted to it.

The rack is laid across the tub to support the strainer, it needs no description.

The strainer should be large enough to allow a pail of milk to be emptied into it without danger of its flying over the edges. Those having fine wove brass wire soldered on the bottom, are most easily kept clean.

Coloring.—(The milk being all in the tub, and having attended carefully to my last remark on cleanliness,) take a piece of annatto, if good, a piece the size of a large pea is enough for a cheese of fifteen or sixteen pounds, spread it on the palm of the left hand, and rub it in the milk with the fingers of the other until it is dissolved.

The rennet, or steep, is now added, and no more must be used than is just necessary to curdle the milk; on this greatly depends the quality and flavor of the cheese. The whole is to be stirred, that the coloring and rennet may be well mixed with the milk, and the cover put on until the coagulation has taken place. It is impossible to make good cheese without good rennet. The method in which I have been most successful in obtaining it of the desired quality, is the following: Take the rennet or stomach of a calf, (that of one that has been well fattened and at least four weeks old is best,) empty it of its contents, rinse it very slightly in cold water, put it on a plate with as much coarse salt as will preserve it, and let it lay for eight or nine days; put splinters of wood across it to keep it spread, and hang up to dry until wanted; it will improve by age. A few days before the steep is wanted, take one quart of soft water, add two handfuls of salt, boil and let stand until cold; break your rennet in pieces, put into a jar and add the liquor, in two or three days it will be fit for use; strain, bottle and cork it. A good rennet treated in this way will make from twenty-five to thirty cheeses. And when the strength is ascertained, it is easy to know the proper quantity required.

Breaking curd.—When the coagulation is completed, it is to be broke, that the serous part may be more easily separated, and is done in the following manner: the hand is thrust to the bottom and raised up through the curd, squeezing very gently those pieces that continue to adhere, continuing until the whole has been completely broke. The process is easier done than described, and requires some practice to accomplish it well. If done too hurriedly, the whey will not come off so thin and clear as it will otherwise. It should stand a few minutes to settle, after which the whey is lifted off with as little disturbance to the curd as possible.

* This observation may not apply to American and other kinds of cheese; the process in making is materially different, but I am satisfied of its truth as regards the kind under consideration.

Settling the curd.—In performing this part, two or three persons may be engaged with advantage. The open hands of all employed are laid on the curd very lightly, at first shifting them seldom and with care; it will soon begin to harden under the hand, and a gradual increase of pressure becomes necessary. At this stage, if the weather is cold, it is sometimes proper to throw on a quantity of hot whey, to induce a greater degree of tenacity in the curd and accelerate the operation. When it has become sufficiently solid, the curd is to be cut in square pieces of three or four inches each, by running a knife several times through it at right angles, the tub is then raised on one side by placing a block of wood under it and the curd collected in a heap at the upper side of the tub, pressing with the open hands as before is then resumed, and continued until the whey nearly ceases to run off. As the whey that is afterwards collected is preserved for another purpose, that which is now in the tub must be lifted out and passed through a cullender, to collect any detached pieces of the curd.

*To prepare for the vat or hoop.**—The curd is to be cut in the same manner as before, and the hoop placed on the rack over the tub; each person engaged then lifts from three to four pounds into a milk pan or other convenient vessel, putting to their respective quantities a large tea spoonful of fine salt, and one-fourth of a tea spoonful of salt petre, as much of the curd is then grasped between both hands as can be conveniently taken, and with a quick firm squeeze, suffering it to pass through between the hands, is again returned to the vessel, continuing the operation until sufficiently done; it should be as fine as grains of wheat and lively to the touch. If overdone, it will become soft and pappy, and detract from the richness of the cheese; if not done enough, it will not press so well. It is put into the hoop, and the remainder treated in the same way. When the hoop becomes full it must be pressed down with the open hands, which should not be shifted until the cheese becomes solid under them, which it will soon do. It will be more convenient that the last prepared be pressed in the same manner in the vessel before putting it in the hoop, it will prevent its falling off. When the whole has been pressed until it has become a solid mass, it is turned out of the hoop on a clean cloth, the hoop is rinsed in sweet whey, and the holes, if shut, opened; the cheese is lifted by the cloth and returned to the hoop, the ends of the cloth lapped neatly over the cheese, the follower put on and conveyed to the press.

The white whey that has collected in the tub is to be passed through the cullender, and may be fed to the calves, if there are any rearing, instead of milk, or it may be set away, to cream for whey butter. It is treated exactly like milk intended for that purpose.

The press ought to have a pressure of at least five or six hundred weight. Transverse pieces of wood, of about half an inch thick, should be fastened where the hoop is placed, that the whey may have free vent. The cheese is to remain in the press for twelve hours; it is then taken out and pared if necessary, and as much fine salt rubbed on it as will adhere, it is furnished with a clean cloth, reversed in the hoop, and returned to the press. It is treated in the same manner at the end of every twelve hours, until it has been forty-eight hours in press, except that at the last turning it is put in without a cloth, that it may come out smooth. When a new cheese is to be put in, the oldest made must always be placed uppermost. Two presses are necessary for a dairy of twenty cows; there will always be two and frequently three cheeses in each.

Cheese-room.—The most suitable place for the cheese-room is the cellar, if it be dry and airy. It should be impregnable to marauders, such as rats, mice, &c. The floor should be of smooth flat stone, well put together. Two windows are necessary, and it is desirable to have them face to the north and east, as south or west winds, if permitted to blow upon them, is apt to swell the cheeses. The windows should be secured on the out side with wove wire, and the shutters so constructed, that the current of air may be augmented or diminished at pleasure; revolving slats are very convenient. The shelves may be constructed according to the fancy of the owner, and for a dairy of twenty cows should be capable of containing three hundred cheeses.

Management of cheese in the room.—The cheeses are to be turned every day; the window shutters must be closed, and the room darkened through the day, unless in a rainy or damp time, and opened at night. In hot dry weather, the floor may be sprinkled once a day with cold water. If any of the cheeses incline to swell, they are to be placed on the floor until they resume their natural shape. If mites become troublesome, the cheeses and shelves may be brushed off with a dry brush. A blue mould or coat is most desirable, and is to be encouraged.

I have been more minute in my details of this business, knowing the difficulties that beginners are liable to encounter, and after all I have said, it will be found that experience is necessary to constitute the learner an adept in the art. It now remains that I give a short statement of the pro-

* Two very convenient hoops may be made of a half bushel measure, by cutting it in the middle. The bottom should be fastened and perforated with a number of small holes, there should also be holes in the sides near the bottom; both larger and smaller sizes may be occasionally wanted. The followers should fill the hoop neatly, and yield easily to the pressure.

ceeds of my own dairy for the last season. The prices, it is true, were high; but owing to a combination of circumstances beyond my control, the quantity fell considerably short of an average of preceding years.

I milked twenty cows, which, owing to the great scarcity of fodder, had been fed for two-thirds of the preceding winter on straw. Toward spring they were fed with good hay, with about 18 cwt. of oil cake, which cost me seventeen dollars. I commenced making cheese on the fifteenth day of May, and finished on the twelfth of September. I made 250 cheeses averaging fifteen pounds each. Before commencing and during the time of making cheese, I made 400 pounds of butter, the Sabbath's milk being always used for that purpose. After quitting the cheese I made 550 pounds of butter. I fed 2,000 pounds of pork, chiefly on the whey, and made 112 pounds of whey butter. I have already stated that the price of cheese was eleven cents per pound; mine was carried to market loose, and sustained some damage, in consequence of the boat springing a leak and having to unload her cargo, for which reason one-fourth of a cent per pound was deducted, I must therefore calculate accordingly.

20 calves, averaging \$3 each,	\$60
400 pounds butter at 20c. per pound,	80
550 " " 28c. do.	154
3750 " cheese, 10½c. do.	403
112 " whey butter, at 12½c.	14
2000 " pork, at 8½c.	170
Add for milk and cream used in family containing 13 persons, say	30

Deduct for first cost of hogs and extra feed,

911
60

851

The average of butter to each cow is a fraction over 47 pounds, the average of cheese 187½ pounds. The average amounts to each cow, \$42.55.

P. S. As my butter, as well as cheese, stands as fair in market as any other, I may hereafter send you a few remarks on my manner of treatment of that article likewise.

J. SMEALLE.

Princeton, Schenectady co.

PRODUCT, &c. OF THE FLAX CROP.

New Berlin, N. Y., June 3, 1837.

J. BUEL—DEAR SIR—I was somewhat surprised on reading an article on the culture of flax in the April No., 1836, as a statement of the product of Major Kirby's crop of flax. Seven and three quarter tons of dressed flax were represented to have been grown upon six acres of land. This was so palpably at variance with what I had understood the amount of the crop, and with my own experience, that I set it down as an unintentional mistake of your informant.

Were it not evident from perusing an article in the February No. that the delusion was likely to be perpetuated, I should not now fulfil a determination I then made of writing, and I have only to offer in apology my desire to see the Cultivator a vehicle of correct information. I have grown and purchased the crop for manufacturing to some extent for the last two years, and I can state that the average of crops will not vary much from one ton of stem per acre, and this quantity will decrease one-fifth in weight in the process of rotting, and will afford of merchantable flax, for the purpose of manufacturing, from 240 to 320 wt., average, say 275 wt. Ball's patent hemp and flax machine, manufactured at Copenhagen by Doct. S. Allen, is undoubtedly the most approved. Its great merit is found to consist in its giving a greater amount of lint from the raw material, and that too without injuring the fibre of the flax. The expense of rotting and cleaning may be set down at 3c. per lb. or one-third value of the product.

I have been informed, but with what accuracy I would not vouch, that flax grown in the western counties, although yielding abundant crops of seed, affords very little lint. If so, I can only account for it because of its very rapid growth, and consequently drawing a weak harle. Early sown crops are generally superior in yielding the heaviest and strongest fibre.

I am very truly yours,

T. S. KNAP.

REMARK.—The seven and three-quarter tons should have been undressed, and not dressed flax.—Cond.

SUBSTITUTE FOR THE MULBERRY.

Rome, June, 1837.

JUDGE BUEL—DEAR SIR—I take the liberty to enclose herein for your inspection a skein of white sewing silk. The worms from which it was reeled may be fed from a vegetable that may be grown in abundance in every section of our country, with the same culture as a carrot, and worth, for the table, about the same price. The discovery of a substitute for the mulberry, for the northern section of the U. S. at least, must be of much moment, as our winters prove very fatal to the mulberry.

This vegetable puts out leaves very early, and is never injured by frosts, has a heavier burthen of leaves than the carrot, and may be cut with a knife, scythe or cradle, with ease, and with little injury to the plant. By repeated trials, at different times, it was ascertained that the worms had

a decided preference for this plant over the mulberry, as they would leave the mulberry leaf for these, nor return to the mulberry so long as any leaves of the plant were left. The worms remained healthy, cocoons proved as heavy, reeled as well, and the silk proves as strong and of as good quality, as any I have seen of this country rearing. The skein herewith sent has not gone through the regular process of the Italian purified silk sewings, but has simply been washed in soap suds. This discovery is the result of much and persevering attention on the part of the person who has made it, a farmer of this town, with small means, and needing the benefit which ought to be awarded to public benefactors. He intends making public his discovery and experiments, after having again tested them, and trust to legislative beneficence for his reward.

Your ob't serv't,

JAY HATHAWAY.

The Italian spring wheat looks remarkably fine. I saw a field yesterday which stood a foot high. 9th June.

[The sample of silk sent us may be seen at the Cultivator office. What the substitute for the mulberry is, is as much a mystery to the Conductor as it is to the reader.]

THE ARBUTUS—TURKISH MODE OF MANAGING SILK WORMS.

DEAR SIR—In looking over the pages of a book entitled "*Sketches of Turkey in 1831 and 1832.*" page 436, I observe the following. You are engaged in a business which would render this notice interesting to you, and if this description and notice is true, vastly interesting to this country. It is for these reasons I take the liberty to call your attention to it.

The author says, "Here too seemed to flourish the strawberry arbutus, (*A. unedo*), which now seemed to offer its luscious scarlet fruit to the tired traveller, and bent over the road side under the weight of its snowy blossoms."

It would be meritorious to introduce this beautiful shrub on our own hill sides. It appears to thrive on a barren soil; it might advantageously occupy the place of our formal and solitary mullein, and would contrast beautifully with our showy kalmias. In Dalmatia, large quantities of sugar and brandy are obtained from this fruit. It is only about five years since this manufacture has been attempted; and I am informed that already more than eight thousand barrels of brandy are annually produced. One thousand pounds of this fruit will give a barrel of spirit, and by the ordinary process, twenty pounds of fruit will furnish between four and five pounds of sugar, and a highly aromatic syrup.

This shrub is said to be a certain bearer, every year equally well. Its capacity to produce sugar is better than either cane or the beet, or any other known plant. I should think a cargo of the plants could be sold, if any one would import them."

And while I am making extracts from this author, I will furnish you with one relating to rearing and feeding silk worms, that I am persuaded describes a preferable method to that in common use in this country.

Silk worms, like every species of caterpillar that feed on the leaves of trees or plants, are led by instinct to be suspended on branches, and not to lie on a plain surface, and therefore must enjoy more health under that form of feeding than when made to feed on leaves lying on a level surface.

He says, "The eggs are spread upon linen clothes, or kept under the arms, or in the bosom, until hatched, which take place in a few days. The room is then strewn with branches of the mulberry; first feeding them with the tenderest leaves, and as they grow older they continue to add branches every day until they reach nearly to the top of the room. In the course of ten or twelve days they become torpid, or fall asleep, and continue in this state three or four days; they then awake, and continue to eat and sleep alternately for about six weeks, when they begin to climb. Dry oak branches properly trimmed and prepared for the purpose are then set upright on the pile, they ascend these and commence making their cocoons."

You will, perhaps, confer a favor on the Poughkeepsie Silk Company by furnishing them with the above information: as that rich company have had \$200,000 invested for two years, and have not yet, I believe, produced any cocoons; perhaps they have in some way erred in the management of the silk worms.

AGRICOLA.

P. S. If any confidence is to be placed in the article respecting *arbutus*, and I do not know why confidence should not be given to it; if the author is the person I have supposed, he is highly respectable, that article is very important. It is certain, however, that this species of *arbutus* is different from any variety I have known. At any rate the plants should be obtained at any expense.

A.

REMARKS.—The *arbutus unedo* is also indigenous to Spain, where sugar and spirits have been made from the leaves, and also in some parts of Ireland. It is also in our nurseries, and esteemed a highly ornamental plant. The *arbutus uvaursi*, (bear-berry, or strawberry tree,) is indigenous to our country, both red and white fruited; they are both abundant bearers, and beautiful shrubs, but we have not learnt that their berries have been converted to any useful purpose.—Cond.

CURE FOR THE SCOWERS IN YOUNG ANIMALS.

Give the animal a pint of shelled wheat two or three times a day. If a sucking colt, give to the dam at the same rate.

Flemingsburgh, Ky. June 1.

G. W. FORDMAN.

EXTRACTS.

MANAGEMENT OF A CLAY FARM.

It is contended, in Britain as well as in America, that stiff clay soils, at least, require the process of summer fallowing, every few years, to clean and pulverize them, and to fit them for the growth of grain. This requires the loss of one crop, and the expense of two or three ploughings. It will be seen from the following, that summer fallows have been dispensed with upon clays, and cross ploughings superseded; and that the profits of the farm have been thereby doubled. The practice of Mr. Greg, as stated below, cannot fail of affording useful hints to the managers of clay farms; and his mode of forming ridges, to keep his lands dry, we particularly recommend to the notice of farmers, who are troubled with a redundancy of water, in the spring, in consequence of having a flat surface, or a retentive soil or subsoil. For the grubber, or scarifier, we can confidently recommend Concklin's Press Harrow, or the grubber or scarifier may readily be constructed here.

GREG'S SYSTEM.

The farm of Coles, near Buntingford, in Hertfordshire, consists of 240 acres of arable land, which is described as "a very tenacious clay, in some places mixed up with calcareous earth, which causes it to bind at top after heavy rain;" and was formerly worked nearly under a three-course system of summer fallow, white corn, and pulse, or clover. Turnips were seldom sown, as the difficulty of feeding or carting them off was found to be injurious to the succeeding crop; and, consequently, only a small flock of 80 ewes or 140 wethers was kept, which was constantly folded during the summer. Upon this, and the observations regarding the disadvantages attending the similar plans of his neighbors, it is unnecessary that we should here offer any remark, for we know that they have been, in many instances improved, and our more immediate object is to state the system afterwards adopted by Mr. Greg, and since followed by his nephew, during upwards of twenty years.

Having, as he tells us, "established in his mind, as a general principle, that fertility was to be derived from pulverizing the soil, clearing it from water, and keeping it clean, he proceeded to inquire how those objects were to be obtained at the least expense; and he found that the best method to promote them was to reverse the whole system of the former cultivation." Accordingly, instead of ploughing four or five times only in summer and spring, and fallowing every third year, he formed the determination "to plough only once for a crop; to plough only in winter; never to fallow the land in summer; to practise the row-culture, and to use the horse-hoe." The mode in which he carried his plan into execution was as follows.

He divided the farm as nearly as possible into six equal parts, which are cultivated in a six-course shift, consisting of turnips; barley or oats, clover, standing two years; peas or beans, upon the ley; and lastly, wheat. The ground is marked out by a drill into ridges of five and a half feet in width, intersected by furrows of ten inches wide; thus leaving only fifty-six inches for each land, which is worked by a Suffolk swing plough, formed upon a construction to cut a perfect trench of seven inches deep, and requiring four bouts to complete the ridge, which is made sufficiently convex to describe an inclined plane of three inches from the crown to each furrow. Thus water is prevented from remaining upon the land intended to be cropped, by being drawn into the ten-inch furrow, which is carried two inches deeper; the horses never tread but in a furrow; and by the soundness of this ploughing Mr. G. states, that "when effected in the autumn or before Christmas, a perfect friability is obtained in the tilth by the influence of the frost during the winter, and the surface water may be as effectually got rid of as by under-draining.

As soon as the harvest is completed, the wheat-stubbles are hauled, and the lands are marked out and ploughed one bout; dung is then ploughed in to the amount of ten loads per acre, and three bushels of winter tares with a bushel and a half of winter barley are sown, to precede turnips, to the extent of about half the ground intended for that crop, which, in common seasons, it does not impede, as the tares are cut upon a moist furrow for the turnip sowing.

The tare sowing being finished, the bean and pea stubbles are prepared for wheat; which is a difficult operation on heavy land, when the object is to get the seed early into the ground. The labor which they require from the plough, roll, and harrow, was so great as to induce Mr. Greg to use a powerful grubber, or scarifier, of a form which covers an entire land; and it performed so well that he has since continued to use it instead of the plough, as he found that he could thus sow forty acres of

wheat in a very few days, regardless of weather, and at a sixth part of the expense.

Having sown the wheat, the remainder of the land intended for turnips is ploughed and dunged. The ploughing is also performed for peas and beans; and it is desirable that these operations should be completed before Christmas. As soon as the season turns, the land which was ley, and intended for beans and peas, is scarified; and when the growing weather commences, the beans are drilled at fifteen inches for the convenience of horse-hoeing. The peas are next drilled; but as these, by falling over, preclude the possibility of hoeing them more than twice, they are sown at intervals of twelve inches.

As the ground is cleared of turnips, it is ploughed into lands. In the spring, the barley is drilled in rows of eight inches—not leaving any space for furrow—and the clover and rye-grass is sown up, and then across the lands.

As soon in May as the weather permits, and the sun is sufficiently powerful to kill weeds, the scarifier is set to work, succeeded by a strong harrow; and having by these operations obtained cleanliness, the first favorable weather is made use of to sow Swedish turnips; or, should they fail, they are succeeded by white turnips, and in the event of a further miscarriage, coleseed is sown. With these, and the assistance of about ten loads of clover, and ten weeks' run on pasture in bad weather, 500 sheep are now kept on the farm, but lie enclosed at night in a spacious and well-littered yard. The fodder produced by straw and clover hay supports from forty to fifty head of cattle, and nine working horses are kept, which are soiled during the entire summer: thus so large a quantity of dung is made that no manure is purchased.

In this manner 200 acres are ploughed between harvest and Christmas, besides the cartage of dung and other odd jobs on the farm; but this is easily performed with the aid of the grubber, and the land being entirely ploughed in the winter, there is only the sowing of Lent corn to execute in the spring: the horses are therefore put upon green food, by which a considerable saving is made in the consumption of corn. Many other details of management are given in Mr. Greg's pamphlet, which is brief and well worthy of attention, but which we refrain from enumerating, as we only meant to call attention to the extraordinary statement which it contains of such a system of culture having been so successfully pursued upon land of that nature, as to yield an average, during six years, of the following crops, namely:

	Per acre.
Wheat,	25 bushels.
Barley,	40 "
Beans,	35 "
Peas,	30 "
Clover, twice cut,	2 tons.

thus, after the deduction of rent and the interest of 2,500*l.* capital, presenting, upon an average of six years, a profit of 67*l.* 3*s.*, or 2*l.* 15*s.* 11*d.* per acre, and a result in favor of his mode of cultivation of no less than an annual difference amounting to 638*l.* 13*s.*

Of the accuracy of the minute account thus furnished by Mr. Greg, we have no reason to doubt, though we confess ourselves somewhat sceptical regarding the justice of the conclusions which he has drawn respecting the superiority of his own plans over those of his neighbors; for every man, however high his honor and impartiality, is yet unconsciously biased in favor of any pursuit of his own, and no farmer could live upon the profit which he has assumed as that of cultivation under the old plan. On a subject of such vital importance to agriculture as that of the fallow system, we indeed deemed it prudent to apply to the present Mr. Greg for further information, which he readily afforded; and, from recent personal communication and correspondence, we are assured by him, "that his uncle's system is still pursued upon his farm with the best effect; as is evinced by the clean condition of the land, the heavy crops produced, and the quantities of stock maintained. The only alteration of importance made in his mode of cultivation subsequent to the publication of his pamphlet, was the substitution of a seven years' course, in place of that of six years, by which he obtained two crops of wheat—one on the clover ley, and another after the beans and peas. The annual course of cropping in the several years now, therefore, stands thus—

- | | |
|-------------------|--------------------|
| 1. Turnips. | 5. Wheat. |
| 2. Barley. | 6. Beans and Peas. |
| 3. and 4. Clover. | 7. Wheat. |

No material alteration has been made in the implements; nor was any fallow permitted so long as the late Mr. Greg's health allowed his superintendence of the farm; but the bailiff now occasionally fallows a field of the heaviest land: this, however, is only resorted to when the land sown with turnips has not been prepared in time for the barley crop, and only averages about 16 acres a year out of 250."—*Br. Husb.*

ENTOMOLOGY.

Is the science which treats of insects—of their history, their habits and appearance. No study is more interesting to the farmer than that of the insects which prey upon and destroy his crops. When acquainted

with their species and their habits, he is qualified to guard against their depredations. We gave in our last some interesting facts in regard to the *Cut-worm*, from J. E. Muse, which we copied from the Farmers' Register. We now give, from the same pen, a description of the *Curculio*, a large family of insects, which destroy our fruits, and prey upon our crops, with suggestions for preventing their ravages.

Another insect, the "*curculio*," of which there are nearly one hundred species, belonging also to the *coleopterous* order, commands, from its universal ravages, upon both the farmer and the fruiterer, the attention of every member of the community, who has it in his power to contribute, in the smallest measure, to the destruction of this ruthless foe to the wealth and luxury of man; which frustrates, by its concealed and wily movements, the most rational and well founded plans, executed by the most ardent and efficient energies of the human mind and body. Are we not inclined to exclaim, with the moral and philosophical Seneca, "*Natura quam te colimus inveni quoque.*" How repugnant to the proud feelings of man, to stoop to combat with this insignificant animalcule? How resistless are the ordinances of nature, which compel us, by acts so humiliating, to admire and adore that complex creation, whereby the great architect has seen fit to enforce them!

I have made experiments on the *larva* of several species of *curculiones*, and have found the parents so nearly similar in *habitat*, metamorphoses, and most other circumstances, that one description will suffice for their whole history; at least of those which I have examined; and the only mark of idiocracy in the tribes which I have observed, consist in their choice of a *nidus*; selecting, from their peculiarities in this respect alone, the cherry, the plum or the grain of corn, as their instinctive or innate propensities might incline them.

In a transparent bottle containing some earth, I deposited several cherries, in which were the *larva* of the *curculio*, that infest that fruit; in a few weeks, or rather as soon as the pulp of the fruit was consumed, which was at different periods, they retreated into the earth, where upon examination some time after, I found they had assumed the state of *chrysalis*, which shortly resulted in that of the *imago* or parent; the wings of the insects were not sufficient to accomplish a flight, but merely to assist its ascent of the body of a tree; from which circumstances, I was led to the following reflections and experiments to test their correctness:

That the remedy must be such as would act, physically, to wit—to interrupt the metamorphoses, by preventing the descent of the *larva* into the earth; to expose to the weather, the *pupa*, after its descent; or to intercept in its ascent of the body of the tree, the parent insect; or chemically—by substances, known to be generally deleterious to that class of animals.

The fruit being the *nidus* of the *ovum*, and the earth the *habitat*, in which it is brought to maturity and makes its abode, and the *larva*, from its soft and delicate structure, incapable of travelling, or sustaining exposure; when the fruit containing the *larva* has fallen and is rotted and consumed by the insect, the *larva* must descend, by the most direct route from its original depository, the fruit, into the earth, its permanent abode, there to undergo the metamorphoses, which will bring it to maturity, and fit it for a new series of depredations, which is so secretly performed, that though myriads are employed, they are never detected in executing their work of destruction, the deposite of their *ova*. Hence I concluded, that one of the most effectual preventives, would be paving with brick, stone, shells, or some other hard substance, impervious to the soft *larva*, a circular space round the fruit tree, as extensive as the fall of the fruit; by which it would be interrupted in its descent in the earth, and consequently perish; or that it might be accomplished, by turning up the earth under the tree to the same extent, and thereby exposing to the inclemency of the weather, the tender *pupa*, of which two methods, the former is to be preferred; because thereby you arrest the passage of the *larva* to maturity, and necessarily destroy it. The latter method, if not performed in time, may allow the perfection of the *imago*, and in this state it is unquestionably more hardy and capable of providing another habitation, as secure and comfortable as that of its first election. And by the experiments which I have made, its descent and maturity are at uncertain and unequal periods, which would make an insuperable difficulty, in point of time, for performing the operation; if before the descent, it would necessarily be useless; if after the maturity, equally so, for reasons given.

This view of the subject, has led me, repeatedly, to both experiments, which I have fairly and impartially made without the influence of any prejudice, which it might be presumed, my reasoning had connected with, or in favor of the former; the result was, the fruit with which I made the experiment that had been destroyed by *curculiones*, for many years, were in all cases, when I paved or shelled, entirely exempt; in two cases only, when the earth under the tree was turned up, at different seasons, the fruit escaped injury, but from the number that failed, I was inclined to ascribe these two to causes accidental and extrinsic.

The third method proposed, viz: to intercept the parent in its ascent of the body of the tree, by various obstacles which the mind will readily suggest, and thereby prevent its deposite of *ova*, though I have made no ex-

periments upon it, I conceive to be rational, and easily accomplished, and with those species of *curculiones*, of which there are many, whose wings do not admit of flight, but assist them only in climbing, it would undoubtedly be effected.

The fourth remedy which I propose, of a chemical nature, I have made but partial experiments to establish, such as are not yet satisfactory or conclusive; when finished, it will give me pleasure to report them, if the result be successful, by a fair and candid detail of facts.

I fear, I have already trespassed on your patience, and will venture merely to notice the parent of a singular *larva*, which some years ago, very generally, throughout the state, as you no doubt remember, threatened to exterminate the whole vegetable creation, as far as it travelled; in whole districts, not a solitary blade of wheat, oats, or rye, nor a remnant escaped its voracious appetite, and the grass was swept, in this march, as if by a scorching fire. So formidable were the destructive multitudes, that fosses, abatis, and parapets were constructed, to repel their advances, and the ditches were filled with their dead bodies. I deposited in bottles, with earth, several of these *larva*; they shortly went into *chrysalis*, and came out a fly of the *lepidopterous* order, precisely like the candle-fly, in all respects. This result, I report, because numerous as they were, and as much alarm as they occasioned, I have never seen a notice of a similar experiment; and it may, in case of a return of these hosts of enemies, afford a clew to their destruction. We at least are not averse to know something of an enemy, which has, and may again assail us with more disastrous ravages.

If, sir, the present communication shall have the effect of inciting to inquiry, on these interesting subjects, the enterprising and intelligent farmer—if the plan of research which I have ventured to suggest, shall afford him any assistance—if I have added one ray of light, whereby more may be obtained—my purpose is answered, and my most sanguine expectations fulfilled.

I have the honor to be, sir, your obedient servant,

JOS. E. MUSE.

[From the Farmers' Cabinet.]

THE GENERAL HABITS OF INSECTS.

It is a singular circumstance in the history of the insect race, that they are destined, during the transient period of their existence, to appear under three very different forms, viz: the *larva*, or caterpillar; the *chrysalis*, nymph or pupa, and the perfect insect. A knowledge of these several stages, or forms of insect life, is indispensable to an understanding of their history.

The silk-worm affords a familiar instance of those great events which characterize the lives of most insects. The egg, now lying in my drawer, when the proper season arrives, will produce a *larva*, or caterpillar. After feeding for a few weeks, this worm will have completed its first period of existence, and must prepare for the coming change. Having found a convenient corner, it first spins itself up in a ball, or cocoon of silk.—When its domicile is finished, it soon changes to a pupa. The caterpillar, hitherto three inches long, strips off its skin, contracts into an oval form, about one-third of its former dimensions; the surface is now white, smooth and soft, presenting very feeble traces of the included insect. The outside soon changes to a yellowish brown color, becomes more dry and resisting, and the surface is now figured with elevated lines, which mark the situation of the body and limbs of the more perfect animal, which is soon to be produced. In a word, the *chrysalis* or *pupa* is completely formed. The pupa state continues from two to three weeks, when the perfect insect bursts the flimsy envelope, which had bound it, opens a passage through its silken tenement, and appears a perfect winged insect, or moth. In this state it does not eat. It moves only in quest of its mate. The only passion it feels, the only care it exercises, is, to provide itself with a successor—and, having done so, it dies.

The changes which I have described, are called the *metamorphosis* or *transformation of insects*. All insects, however, do not undergo these changes. Some of the *wingless species* retain through life, the form in which they issue from the egg. These are comparatively few in number. Others are hatched with all the parts of a perfect animal, except the wings. The pupa is distinguished from the larva, by mere rudiments of wings; and these become fully developed in the more perfect state. Example: grass-hoppers, locusts, &c. Insects of this sort are said to undergo a *demi-metamorphosis*, or half transformation.

I will close this essay with a few remarks on the different stages of insect life.

LARVA OF INSECTS.

As comparatively few insects feed their young, or even lay up food for their sustenance, they are instinctively led to deposit their eggs in situations where the young animals will most easily procure food suited to their nature. The same instinctive care leads them to seek places where the eggs will be protected against the destructive contingencies of the changing seasons. Thus insects whose larva feed on particular plants, generally select those plants as a deposit for their eggs. If the eggs are intended to hatch the present season, they are generally placed on the leaves of the plant. Example: the stinking bug which inhabits

the squash and pumpkin. Others, which are intended to endure the winter in the egg state, are placed on more permanent parts. Example: the tent caterpillar, which infests our fruit trees. Its eggs are deposited in a dense cluster, around the extremity of a branch.

Numerous insects pass the larva state in the water. The eggs of these are deposited immediately in the water, or on plants, &c. along its margin. Example: the *mosquito* and *dragon fly*.

Carrion flies deposit their eggs in putrid carcasses, the proper food for the maggot. Yet, even instinct may be beguiled by the senses. The carrion fly is often led, by the smell, to deposit its eggs in decaying mushrooms; and they may even be seen collected upon the stinking blossoms of the carrion flower, *smilax herbacea*.

The *bott fly* unerringly selects such parts of the horse as allow its eggs to be licked off by the animal—whence, they find a ready passage into the stomach, where they complete the first period of their murderous existence.

Led by the same instinct, the *ichneumon fly* deposits its eggs in the body of a living caterpillar, which, after feeding the hungry parasites with its own body, falls at last, a prey to their voracity.

Many species of insects are only preserved during the winter, in the egg state.

PUPA OF INSECTS.

The insect having completed its larva state, seeks a situation to pass the next succeeding period, according to its peculiar nature. Many, especially those of the *moth tribe*, spin for themselves a silken dormitory. Others, as the larva of *butterflies*, attach themselves to the side of a wall, fence, &c. and pass into the pupa state without any other than their own proper covering.

Many larvae bury themselves in the earth, where they form a cell adapted to their purpose. In some of these, the pupa state is of short continuance—in others, it endures for the winter season. Of this last, the *tobacco worm* is an example.

Many species are only found during the winter season, in the pupa state.

PERFECT STATE.

The last state of insect existence—the state of perfection—the only state in which the being can reproduce its kind—like the preceding stages, is subject to great variety of duration. Some never eat in the perfect state; they only propagate and die. Others, feed for a time, but seem to have no other object in living, than to await the proper period of reproduction.

Many insects only survive the winter, in the perfect state.

There is, in general, much uniformity in the duration of the periods and changes of all the individuals of the same species.

The egg deposited in the fall, may hatch in the spring, pass its several periods during summer, and in turn, lay other eggs in the proper season. Example: *tent caterpillar*.

The egg deposited in summer, may hatch in the fall, pass the winter in the larva state, perfect its changes in the spring, and deposit its eggs the ensuing summer; these hatch, and the larvae remain the next winter.—Example: *peach insect*.

An insect having passed the winter in the pupa state, emerges in the spring, a perfect being—deposits its eggs, which hatch, perfect themselves and in the fall pass into the pupa state to spend the ensuing winter. Example: *tobacco worm*.

The perfect insect may survive the winter—lay its eggs in the spring—these hatch, and pass their several changes during the summer, ready to pass the succeeding winter in the perfect state. Example: *wasps*.

Others, less regular in their changes, seem to pay no further regard to season, than what severity compels them to do. At whatever stage of life winter overtakes them, they still seem capable of its endurance.

Still others, whose periodical changes are of shorter duration, may reproduce their kind several times in the year.

New Garden, 3d mo. 8th, 1837.

AMERICAN INSTITUTE.

At a meeting of the American Institute of the city of New-York, held at Clinton Hall, in said city, on the 18th day of May, 1837, it was

Resolved, 1st. That the present condition of our commercial community generally, is that of the most painful embarrassment, and that the distress is rapidly extending to all the other occupations and departments of productive industry, and that thousands of our most industrious and useful citizens have been dismissed by their employers, and their wages, the sole reliance for their daily food, their clothing and habitations, have within a few days been entirely cut off.

2d. That it is of vital importance, that the causes of this wide-spread distress should be early and fully understood, so that remedies, as far as practicable, may be provided for existing evils, and preventives to guard against future evils.

3d. That in the opinion of this institute, the multitude of discordant views promulgated, in relation to the causes of our present disastrous condition, have led to popular errors, that have in a measure turned the public mind from the accumulating debt in favor of foreign nations, which

the repeal of countervailing protective duties has swelled against us, which is now pressing on our banks, and incapacitating them from administering relief to their suffering customers.

4th. That the only way to correct the public mind, and restore confidence, regularity and prosperity, is by the dissemination of correct knowledge among the people, as to the prominent causes of our embarrassment, and by producing a general concert of action in applying suitable remedies.

5th. *It was also Resolved*, That a general convention of representatives from all the productive portions of our country, without distinction of parties, for the purpose of a full and candid exchange of sentiments, and a thorough investigation of cause and effect, and concert in action, would greatly conduce to a favorable state of things, and, it is hoped, hereafter may prevent the recurrence of those evils with which we are now visited; and that it be recommended, that the said convention be held at Philadelphia, in the state of Pennsylvania, on the first Tuesday of August, 1837, at 10 o'clock, A. M. and that it consist of business men, selected from the productive classes, and that they continue, by adjournment, to meet until the desired object be attained.

6th. *It was further Resolved*, That, as the American Institute was incorporated to encourage agriculture, commerce, manufactures and the arts, in this state and the United States, it is peculiarly appropriate, that it should recommend and forward such measures as are calculated to advance the great interests of industry, and produce a sound and healthy state of things; and especially on occasions like the present, when the banks acknowledge their inability to supply the requisite circulating medium, and every occupation is experiencing the most intense suffering.

7th. *It was finally Resolved*, That, in order to render this convention effective, and procure a full representation of business men, delegates be invited from all the states—the cotton growing as well as the grain growing, manufacturing and commercial—from cities, counties, towns and agricultural societies, incorporated manufacturing and mechanic associations, as well as rail-road and canal companies, and that a committee be appointed on behalf of this institute, to consult with the friends of national industry, and solicit the concurrence of all those friendly to the foregoing objects; and that meetings be held at an early day, to elect delegates to respond to this recommendation; and that suitable papers be prepared and published, in order to give publicity to the convention and its objects, and to impress on all interested the necessity of general attendance, concert, and co-operation.

JAMES TALLMADGE, *President*.

EDWIN WILLIAMS, *Recording Secretary*.

T. B. WAKEMAN, *Corresponding Secretary*.

OUTLINE OF THE FIRST PRINCIPLES OF HORTICULTURE.

BY JOHN LINDLEY, F. R. S., &c. &c.

STEM—(Continued from page 75.)

61. Some stems are developed under ground, such as the tubers of the potato and the cormus of the crocus; but they are known from roots by the presence of leaves, and regular leaf-buds upon their surface.

62. Stems increase in diameter in two ways.

63. Either by the addition of new matter to the outside of the wood and the inside of the bark; when they are *exogenous*; ex. oak.

64. Or by the addition of new matter to their inside; when they are *endogenous*; ex. cane.

65. In exogenous stems, the central portion, which is harder and darker than that at the circumference, is called *heart-wood*; while the exterior, which is softer and lighter, is called *alburnum* or *sap-wood*.

66. The inside of the bark of such stems has also the technical name of *liber*.

67. The heartwood was, when young, alburnum, and afterwards changed its nature, by becoming the receptacle of certain secretions peculiar to the species.

68. Hence the greater durability of heart-wood than of sap-wood.—While the latter is newly formed empty tissue, almost as perishable as bark itself, the former is protected against destruction by the introduction of secretions that become solid matter, which is often insoluble in water, and never permeable to air.

69. The secretions by which heart-wood is solidified are prepared in the leaves, whence they are sent downwards through the bark, and from the bark communicated to the central part of the stem.

70. The channels through which this communication takes place are called *medullary rays*, or *silver grain*.

71. Medullary rays are plates of cellular tissue, in a very compressed state, passing from the pith into the bark.

72. The wood itself is composed of tubes consisting of woody fibre and vascular tissue, imbedded longitudinally in cellular substance.

73. This cellular substance only develops horizontally; and it is to it that the peculiar character of different kinds of wood is chiefly due.

74. For this reason the wood of the stock of a grafted plant will never become like that of its scion, although as will be hereafter seen (IV.) the woody matter of the stock must all originate in the scion.

75. The stem of an exogenous plant may therefore be compared to a piece of linen, of which the web is composed of cellular tissue, and the warp of fibrous and vascular tissue.

76. In the spring and autumn a viscid substance is secreted between the wood and the liber, called the *cambium*.

77. This cambium appears to be the matter out of which the cellular horizontal substance of the stem is organized.

78. In endogenous stems the portion at the circumference is harder than that in the centre; and there is no separable bark.

79. Their stems consist of bundles of woody matter, imbedded in cellular tissue, and composed of vascular tissue surrounded by woody fibre.

80. The stem is not only the depository of the peculiar secretions of species (67.) but it is also the medium through which the sap flows in its passage from the roots into the leaves.

81. In exogenous stems (63.) it certainly rises through the alburnum, and descends through the bark.

82. In endogenous stems (64.) it probably rises through the bundles of wood, and descends through the cellular substance; but this is uncertain.

83. Stems have the power of propagating an individual only by means of their leaf-buds. If destitute of leaf-buds, they have no power of multiplication, except fortuitously.

IV. LEAF-BUDS.

84. Leaf-buds are rudiments of branches, enclosed within scales, which are imperfectly formed leaves.

85. All the leaf-buds upon the same branch are constitutionally and anatomically the same.

86. They are of two kinds; viz. *regular* or *normal*, and *adventitious* or *latent*, (119.)

87. Regular leaf-buds are formed at the axillæ of leaves.

88. They are organs capable of propagating the individual from which they originate.

89. They are at first nourished by the fluid lying in the pith, but finally establish for themselves a communication with the soil by the woody matter which they send downwards.

90. Their force of development will be in proportion to their nourishment; and, consequently, when it is wished to procure a young shoot of unusual vigor, all other shoots in the vicinity are prevented growing, so as to accumulate for one shoot only all the food that would otherwise have been consumed by several.

91. Cutting back to a few eyes is an operation in pruning to produce the same effect, by directing the sap, as it ascends, into two or three buds only, instead of allowing it to expend itself upon all the others which are cut away.

92. When leaf-buds grow, they develop in three directions; the one horizontal, the other upward, and the third downward.

93. The horizontal development is confined to the cellular system of the bark, pith, and medullary rays.

94. The upward and downward developments are confined to the woody fibre and vascular tissue.

95. In this respect they resemble seeds; from which they differ physiologically in propagating the individual, while seeds can only propagate the species.

96. When they disarticulate from the stem that bears them, they are called *bulbs*.

97. In some plants, a bud, when separated from its stem, will grow and form a new plant if placed in circumstances favorable to the preservation of its vital powers.

98. But this property seems confined to plants having a firm, woody, perennial stem.

99. Such buds, when detached from their parent stem, send roots downwards and a stem upwards.

100. But if the buds are not separated from the plant to which they belong, the matter they send downwards becomes wood and liber, (66.) and the stems they send upwards become branches. Hence it is said that wood and liber are formed by the roots of leaf-buds.

101. If no leaf-buds are called into action, there will be no addition of wood: and consequently, the destruction or absence of leaf-buds is accompanied by the absence of wood: as is proved by a shoot, the upper buds of which are destroyed and the lower allowed to develop. The lower part of the shoot will increase in diameter: the upper will remain of its original dimensions.

102. The quantity of wood, therefore, depends upon the quantity of leaf-buds that develop.

103. It is of the greatest importance to bear this in mind in pruning timber trees: for excessive pruning must necessarily be injurious to the quantity of produce.

104. If a cutting with a leaf-bud on it be placed in circumstances fitted to the development of the latter, it will grow and become a new plant.

105. If this happens when the cutting is inserted in the earth, the new plant is said by gardeners, to be upon its own bottom.

106. But if it happens when the cutting is applied to the dissevered end of another individual, called a *stock*, the roots are insinuated into the tissue of the stock, and a plant is said to be *grafted*, the cutting being called a *scion*.

107. There is, therefore, little difference between cuttings and scions, except that the former root into the earth, the latter into another plant.

108. But if a cutting of the same plant without a leaf-bud upon it be placed in the same circumstances, it will not grow but will die.

109. Unless its vital powers are sufficient to enable it to develop an adventitious leaf-bud, (119.)

110. A leaf-bud separated from the stem will also become a new individual, if its vital energy is sufficiently powerful.

111. And this, whether it is planted in earth, into which it roots, like a cutting, or in a new individual to which it adheres and grows like a scion. In the former case it is called an *eye*, in the latter a *bud*.

112. Every leaf-bud has, therefore, its own distinct system of life, and of growth.

113. And as all the leaf-buds of an individual are exactly alike, it follows that a plant is a collection of a great number of distinct identical systems of life, and consequently a compound individual.

114. Regular leaf-buds being generated in the axillæ of the leaves, it is there that they are always to be sought.

115. And if they cannot be discovered by ocular inspection, it may nevertheless be always inferred with confidence that they exist in such situations, and may possibly be called from their dormant state into life.

116. Hence, wherever the scar of a leaf or the remains of a leaf, can be discovered, there it is to be understood that the rudiments exist of a system which of life may be, by favorable circumstances, called into action.

117. Hence, all parts upon which leaves have ever grown may be made use of for purposes of propagation.

118. From these considerations it appears that the most direct analogy between the animal and vegetable kingdoms is with the polypes of the former.

119. Adventitious leaf-buds are in all respects like regular leaf-buds, except that they are not formed at the axillæ of leaves, but develop occasionally from all and any parts of a plant.

120. They are occasionally produced by roots, by solid wood, or even by leaves and flowers.

121. Hence roots, solid wood, or even leaves and flowers may be used as means of propagation.

122. But as the development of adventitious buds is extremely uncertain, such means of propagation can never be calculated on; and form no part of the science of cultivation.

123. The cause of the formation of adventitious leaf-buds is unknown.

124. From certain experiments it appears that they may be generated by sap in a state of great accumulation and activity.

125. Consequently, whatever tends to the accumulation of sap in an active state may be expected to be conducive to the formation of adventitious leaf-buds.

V. LEAVES.

126. Leaves are expansions of bark, traversed by veins.

127. The veins consist of spiral vessels enclosed in woody fibre; they originate in the medullary sheath and liber; and they are connected by loose parenchyma, [7.] which is full of cavities containing air.

128. This parenchyma consists of two layers, of which the upper is composed of cellules perpendicular to the cuticle, and the lower of cellules parallel with the cuticle.

129. These cellules are arranged so as to leave numerous open passages among them for the circulation of air in the inside of a leaf. Parenchyma of this nature is called *cavernous*.

130. Cuticle is formed of one or more layers of depressed cellular tissue, which is generally hardened, and always dry and filled with air.

131. Between many of the cells of the cuticle are placed apertures called *stomata*, which have the power of opening and closing as circumstances may require.

132. It is by means of this apparatus that leaves elaborate the sap which they absorb from the alburnum, converting it into the secretions peculiar to the species.

133. Their cavernous structure (129) enables them to expose the greatest possible surface of their parenchyma to the action of the atmosphere.

134. Their cuticle is a non-conducting skin, which protects them from great variations in temperature, and through which gaseous matter will pass readily.

135. Their stomata are pores that are chiefly intended to facilitate evaporation; for which they are well adapted by a power they possess of opening or closing as circumstances may require.

136. They are also intended for facilitating the rapid emission of air, when it is necessary that such a function should be performed.

137. The functions of stomata being of such vital importance, it is always advisable to examine them microscopically in cases where

doubts are entertained of the state of the atmosphere which a particular species may require.

138. Leaves growing in air are covered with a cuticle.

139. Leaves growing under water have no cuticle.

140. All the secretions of plants being formed in the leaves, or at least the greater part, it follows that secretions cannot take place if leaves are destroyed.

141. And as this secreting property depends upon specific vital powers connected with the decomposition of carbonic acid, and called into action only when the leaves are freely exposed to light and air, (279.) it also follows that the quantity of secretion will be in direct proportion to the quantity of leaves, and to their free exposure to light and air.

142. The usual position of leaves is spiral at regularly increasing or diminishing distances; they are then said to be alternate.

143. But if the space, or the axis, that separates two leaves, is reduced to nothing at alternate intervals, they become opposite.

144. And if the spaces that separate several leaves be reduced to nothing, they become verticillate.

145. Opposite and verticillate leaves, therefore differ from alternate leaves only in the spaces that separate them being reduced to nothing.—(To be continued.)

Young Men's Department.

HINTS TO YOUNG FARMERS—No. VI.

POLITICAL DUTIES.

In a free country, offices are created for the public accommodation—not for individual emolument. They are generally considered honorary; and, when spontaneously conferred, are among the highest rewards of merit. To *deserve* them, is worthy of your ambition;—to *crave* them, is debasing, and implies a willingness to surrender that independence of mind which is the high prerogative of freemen; and to *depend* upon them for a livelihood, is to sell yourself, unconditionally, and the noblest faculties of your mind, for the fickle, unsubstantial smiles of power. A thirst for office is almost as bad as a thirst for rum. The more either is indulged in, the more insatiable are its cravings. Every repetition of the potion but begets new desires, until, finally, the passion, in one case, terminates in *delirium tremens*, and, in the other, in *delirium candidatum*. I have known many a worthy man ruined in his usefulness and in his fortune, by this latter disease, and ultimately terminate his career under the complicated horrors of both maladies.

In selecting your public agents, adopt the same caution that prudence would suggest in your private affairs: choose those who are acquainted with the business in which you mean to employ them, or who have honesty, industry and talents sufficient to perform it faithfully; who know your wishes and your interests; and who have shown an ability to manage a public trust, by having conducted creditably and successfully their private affairs. Such men possess civic virtues, and merit civic rewards.—But the man who cannot, or will not, bating unusual casualties, provide for his own wants, by his own industry, is unfit to be trusted with public matters. Distrust him who reiterates his importunities for your vote or your influence, as wanting either good habits or good principles. Good habits should render him independent of public aid, and good principles should make him ashamed to ask for it.

Are we, then, to reject, as the bane of happiness, the honors and emoluments of office? No; accept them, when proffered from worthy motives, as a duty, not as a source of wealth; as a compliment to your merit, and as the requital of an obligation which you owe to society;—but never accept them with conditions, express or implied, which would dishonor you as a freeman. Accepted under a sense of public duty, the duties will not seem onerous, nor the emolument become seducing. And when you have enjoyed the honors, and fulfilled the duties, sacrifice neither your political nor your religious sentiments to retain them. The spirit of a free government forbids monopoly. Whether they impose a duty, or confer honor and profit, offices should be shared by those who are capable and worthy, whatever be their creed in politics or religion: for, to make one's *professions* the passport to office, would be to patronize duplicity and servile meanness at the expense of honesty and sturdy independence.

I will close this lesson with the brief history of a school-mate. *Job Allerton*, commenced life under the most happy auspices. His farm was a pattern of neatness—his fields well cultivated, his cattle in fine order, his fences in repair, and his buildings tidy and comfortable. Job owed no man, and had a snug sum at interest. His children were growing up, under the parent's example, models of industry and good breeding. Every thing thrived under his care, and he was pointed to by all as the best farmer in the town of S. His good habits, and the influence which these procured him, at length brought him into political notice, and he became a successful candidate, very much against his will, for the assembly. He returned from Albany in the spring with some new notions, but the ha-

bits of the farmer still preponderated. To a second nomination Job had less objection; nay, he secretly intrigued for it, for, as he told his friends, he thought he was *then* qualified to be useful. The second triumph, and the consequence it gave him in the political and fashionable circles, turned his head, and he came home an altered—an infatuated man. He *sunk the farmer*—and took upon himself the political charge of his town and county. He discovered that he was destined to become a great man, and politics and office engrossed his whole attention. He floated upon the surface until he had passed through the several offices of judge, senator, and member of congress, and then sunk so low, that those who had honored him once, knew him no more.

In the mean time the farm, no longer accustomed to the call of "*come boys!*" showed the absence of the master; the fences were prostrate, the cattle neglected, and the buildings were verging to ruin. The boys, too, as boys ever will, aping the habits of the father, began to strut as gentlemen, and to look up for office and dignities. As industry departed, prodigality entered, and soon wasted the frugal earnings of former years. At length the illusion vanished, and Allerton saw, once more, things in their true light. He found himself deeply in debt, with slender means, and *without office*, with an indolent extravagant family upon his hands. Offices had ruined him, as it has thousands of others, who have abandoned good business to follow in its delusive train. In his distress he mustered resolution to do what many others will now have to do, or do worse: He pulled up stakes, and with the wreck of his former fortune, fled to the wilds of Indiana, resumed his former habits of industry, curtailed his expenses, and again prospered—leaving his official habits and official pride as a beacon to others.

Who is there, that among his acquaintance does not *now* recognize a Job Allerton?

The COMMON SCHOOL ASSISTANT, a monthly publication of eight quarto pages, conducted by J. ORVILLE TAYLOR, and devoted to the improvement of Common Schools and the education of teachers, is published at No. 71 State-street, at fifty cents per annum, in advance.

RECEIPTS, from May 24 to June 23, inclusive.—Nos. under 10 not noticed.

*Alexandria, N.C.	37	Montreal, L. C.	13	Rockford, Ia.	11
Burlington, Vt.	19	Millstone, N. J.	11	Richmond, Va.	55
*Bethany, Pa.	28	Middlebury, O.	10	Red Oak, Ga.	22
Batavia, Gen.	11	*Middletown, Ky.	22	Rockville, Ia.	11
Bladensburg, Md.	12	Middlebury, Vt.	10	*St. George's, Del.	17
*Centerville, Md.	51	Martins, Ark.	11	Starksboro, Vt.	12
Cave Hill, Ten.	13	Marias's Creek, Ia.	11	Sidney, Del.	26
Charlottville, Va.	22	*Mishawaka, Ia.	22	Saginaw, Mich.	11
Campbell C. H., Va.	22	Mentor, O.	22	Smithsburg, Md.	11
Caledonia, Liv.	16	*N. Brunswick, N.J.	24	Shafsbury, Vt.	22
Dundas, U. C.	38	*Norwich, Chen.	26	Syracuse, Onon.	11
Eugene, Ia.	44	New Verno, Or.	11	*Stone Ridge, Uls.	21
Enfield, Ct.	15	*Newark, O.	33	Sheboygan, Wis.	Ter. 20
Framingham, Mass.	12	*New Market, Va.	66	*Saratoga Spa, Sar.	33
*Geneva, O.	22	Newburgh, Or.	12	*Strasburg, Va.	66
*Glenn's Falls, War.	24	New Lebanon, Col.	13	Trogman's store, Va.	11
*Geo'town X roads, Md.	44	*Pine's Bridge, Westc.	26	Vincennes, Ia.	22
Hartford, Ct.	16	Portsmouth, N. H.	10	Vergennes, Vt.	15
Hillsboro, O.	33	*Philadelphia, Pa.	281	Washington city, D.C.	33
Huntington, Suff.	33	Prescott, U. C.	13	Wilkinson's Cross	
Harrisburgh, Pa.	11	Pembroke, Mass.	11	Roads, Ten.	11
Ionia, Mich.	11	Pennington, N. J.	11	Wilson, Niag.	11
Kinney's 4 corners, Os	12	Quaker Hill, Dutch.	12	Ypsilanti, Mich.	26
Logan, Tomp.	11	*Reisterstown, Md.	22	Yellow Springs, O.	11

Total volumes subscribed for during last month, 1,145.

* Including former payments.

PRICE CURRENT.

ARTICLES.	New-York. June 28.	Boston. June 21.	Philadel'a. June 26.	Baltimore. June 20.
Beans white, bush.....	1 25.. 1 50	2 00.. 2 50	1 37.. 1 62	1 75
Beef, best, cwt.....	9 75	7 50.. 9 00	8 00.. 9 00	8 00.. 8 50
Pork, per cwt.....	9 00.. 11 00	10 00.. 12 00	9 00.. 9 00	6 00.. 6 50
Butter, fresh, pound,	14.. 15	14.. 25	11.. 14	25.. 37
Cheese, pound,	8.. 10	9.. 13	10.. 13	13.. 14
Flour, best, bbl.....	10 00.. 10 75	8 00.. 9 50	9 00.. 9 37	8 00.. 9 00
GRAIN—Wheat, bushel, ..	1 30.. 1 70		2 00.. 2 05	1 60.. 1 70
Rye, do. ..	75.. 90	1 10.. 1 13	1 10.. 1 15	88.. 90
Oats, do. ..	50..	62.. 65	56.. 58	46.. 51
Corn, do. ..	90.. 1 04	1 03.. 1 09	96.. 1 00	92.. 94
SEEDS—Red Clover, lb... ..	13	14.. 16	9.. 11	12.. 14
Timothy, bushel, ..	2 50.. 2 75	2 75.. 2 87	2 75	3 00.. 3 50
WOOL—Saxony, fleece, lb. ..	70.. 75	65.. 70	65.. 73	50.. 60
Merino, lb.....	55.. 68	60.. 65	58.. 62	45.. 50
1-4 and com. lb... ..	45.. 50	40.. 45	40.. 44	33.. 36
Sheep,	2 50.. 5 00	2 25.. 2 88		
Cows and Calves,	22 00.. 45 00	28 00.. 65 00		
Cotton,	8 1/2.. 11		9.. 15	10.. 14

FROM THE STEAM PRESS OF PACKARD & VAN BENTHUYSEN.